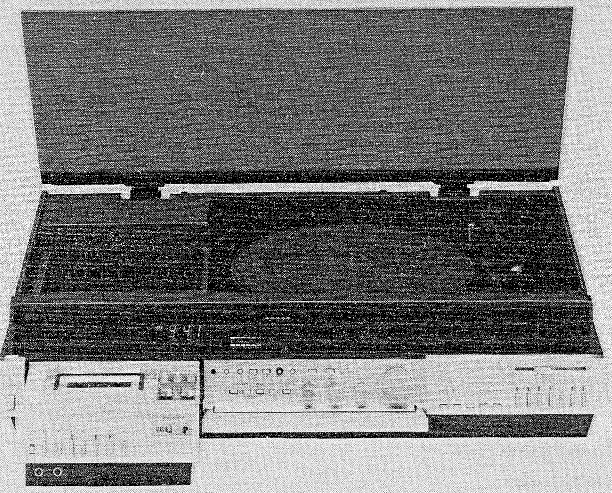
HMK-7000/7000B

HMK-7000: Silver Type
UK Model
HMK-7000B: Black Type
AEP Model



'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories. Noise reduction system manufactured under license from Dolby Laboratories.

STEREO MUSIC SYSTEM

SPECIFICATIONS

GENERAL

Power Requirements: 240 V ac, 50 Hz (UK model)
220 V ac, 50 Hz (AEP model)

Power Consumption: 300 W

Dimensions: Approx. 688 (w) x 160 (h) x 500 (d) mm
27 ⅛ (w) x 6 ¼ (h) x 19 ⅝ (d) inches
(UK model)
Approx. 690 (w) x 160 (h) x 500 (d) mm
27 ⅛ (w) x 6 ¼ (h) x 19 ⅝ (d) inches
(AEP model)
including projecting parts and controls

Weight: Approx. 24 kg, 52 lb 15 oz (net)
Approx. 27.5 kg, 60 lb 10 oz (in shipping carton)

FM SECTION

Tuning Range: 87.5 – 108 MHz

Antenna Terminals: 300 Ω balanced
75 Ω unbalanced (UK model)

Intermediate Frequency: 10.7 MHz

Usable Sensitivity: 1.8 μV, S/N = 30 dB

Sensitivity at 50dB Quieting: 3.5 μV, 16.1 dBf (mono)
10 μV, 25 dBf (stereo)

S/N Ratio: 75 dB (mono)

Harmonic Distortion: at 400 Hz
0.1 % (mono)
0.5 % (stereo)

Separation: Better than 40 dB

Frequency Response: 30 Hz – 15 kHz ± 3 dB

Muting Threshold: Approx. 7 μV

	Specification	Test Equipment
Forward Torque	30–55 g · cm (0.42–0.76 oz · inch)	Sony torque meter CQ-102C
Back Tension Torque	2.5–4.5 g · cm (0.04–0.06 oz · inch)	Sony torque meter CQ-102C
Pinch Roller Pressure	280–380 g (10–13 oz)	Spring scale or tension gauge

– Continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SONY®

SERVICE MANUAL

MW/LW SECTION

	MW	LW
Tuning range	522 kHz – 1,602 kHz	150 kHz – 350 kHz
Antenna	Built-in ferrite-rod antenna, External antenna terminal	
Intermediate frequency	450 kHz	
Usable sensitivity	50 dB/m, built-in antenna (1,000 kHz) 150 μV, external antenna (1,000 kHz)	55 dB/m, built-in antenna (250 kHz) 150 μV, external antenna (250 kHz)
S/N ratio	55 dB (50 mV/m)	
Harmonic distortion	0.5 % (50 mV/m 400 Hz)	
Selectivity	30 dB (9 kHz)	

CASSETTE RECORDER SECTION

Fast-forward and Rewind Time: Approx. 70 sec. (with C-60)

Recording System: 4-track 2-channel stereo

Bias Frequency: 105 kHz

S/N Ratio: DOLBY NR OFF

- With TYPE III cassette
  (Sony FeCr cassette)
  58 dB (NAB)
  56 dB (DIN, 1975 rev.)
- With TYPE II cassette
  (Sony CD-α cassette)
  56 dB (NAB)

DOLBY NR ON
Improved by 5 dB at 1 kHz,
10 dB above 5 kHz

Total Harmonic Distortion: 1.5 % (with Sony FeCr cassette)

Frequency Response: DOLBY NR OFF

- With TYPE IV cassette
  (Sony METALLIC cassette)
  20 – 19,000 Hz
  30 – 17,000 Hz (± 3 dB)
  30 – 13,000 Hz (± 3 dB, 0 VU recording)
- With TYPE III cassette
  (Sony FeCr cassette)
  30 – 17,000 Hz (± 3 dB)
- With TYPE II cassette
  (Sony CD-α cassette)
  30 – 16,000 Hz (± 3 dB)
- With TYPE I cassette
  (Sony BHF cassette)
  20 – 15,000 Hz

Wow and Flutter: 0.04 % WRMS (NAB)
± 0.14 % (DIN)

TURNTABLE

Platter: 31.2 cm (12⅜ inches) dia.
Aluminium-alloy diecast

Motor: DC servo-controlled (brushless and slotless) motor

Drive System: Direct drive

Speeds: 33⅓ rpm, 45 rpm

Wow and Flutter: Less than 0.06 % (DIN)

S/N Ratio: Better than 68 dB (DIN-B)

TONEARM

Type: Statically balanced, universal type

Pivot to Stylus Length: 216.5 mm (8½ inches)

Overhang: 16.5 mm (21/32 inch)

Tracking-force Adjustment Range: 0 – 3 g

Shell Weight: 10.5 g

Cartridge Weight Range: 4 – 12 g

CARTRIDGE (VL-34G)

Type: Moving-magnet type

Frequency Response: 10 Hz – 30 kHz

Channel Separation: Better than 25 dB at 1 kHz

Output Voltage: 3 mV at 1 kHz, 5 cm/sec, 45°

Tracking Force: 1.5 – 2.5 g (2 g recommended)

Stylus: Sony ND-134G (Conical 0.6 mil diamond)

Weight: 5.5 g

AMPLIFIER SECTION

Continuous RMS Power Output: at 20 Hz – 20 kHz
(less than 0.2% THD, both channels driven simultaneously)
30 W + 30 W (8 Ω)
40 W + 40 W (4 Ω)

Music Power: 90 W (8 Ω, THD 0.2 %)

Power Bandwidth (IHF): 20 Hz – 20 kHz

Inputs:

	Sensitivity	Impedance	S/N
PHONO (phono jacks)	3.5 mV (–47 dB)	47 kΩ	65 dB
AUX (phono jacks)	250 mV (–10 dB)	47 kΩ	70 dB
MIC (phone jacks)	1 mV (–57.5 dB)	for low-impedance microphone	60 dB

Outputs:

REC OUT (phono jacks)	output voltage 250 mV (–10 dB)	impedance 10 kΩ
HEADPHONES	Accepts headphones of 8 Ω or more	
SPEAKER	Accepts speakers of 4 – 8 Ω	

Frequency Response: PHONO: RIAA curve ± 2 dB
AUX: 20 Hz – 50 kHz ± 2 dB

Tone Controls: BASS: ± 10 dB at 100 Hz
TREBLE: ± 10 dB at 10 kHz

Loudness Control: (att. 30dB) +7 dB at 100 Hz
+2 dB at 10 kHz

TIMER SECTION

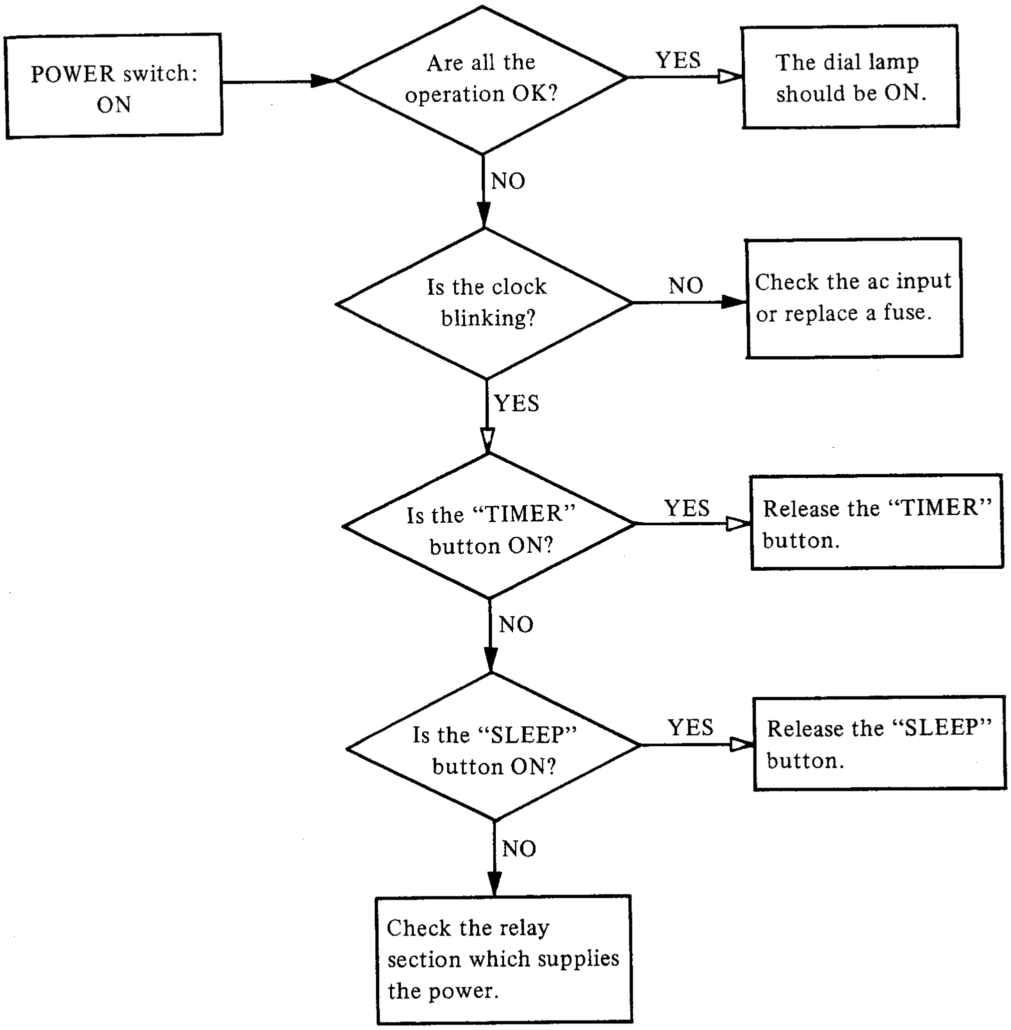
Clock System: Synchronized with power line frequency

Control Time: 12-hour system (UK model)
24-hour system (AEP model)

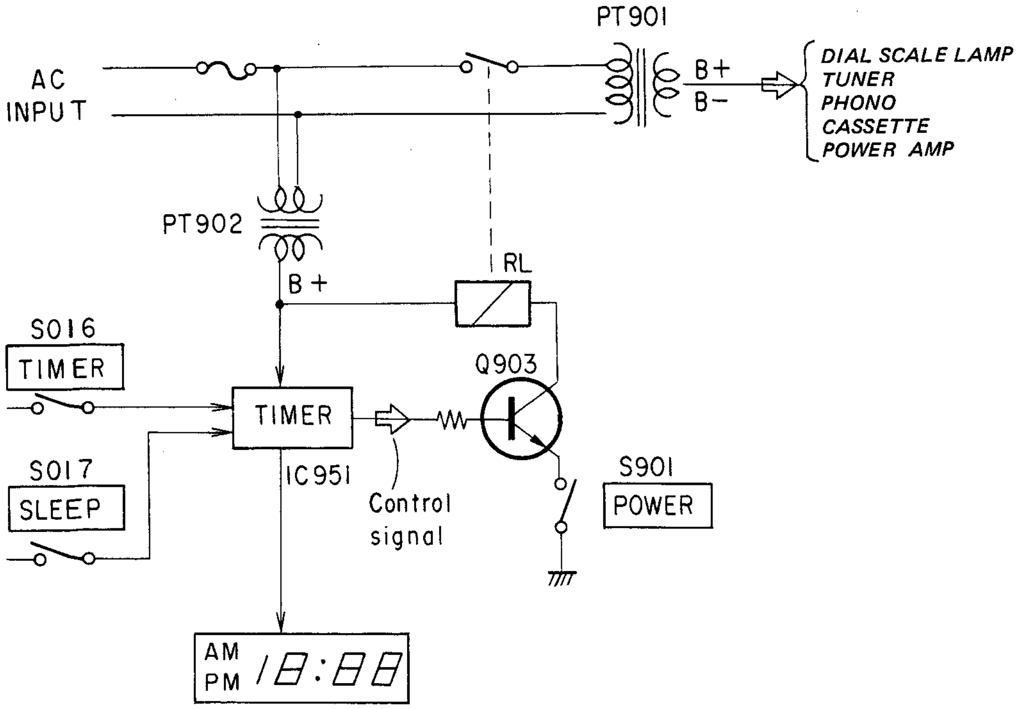
0 dB = 0.775 V

● SERVICING NOTE

1. Although this set is equipped with a dc motor, the clock section corresponds with the frequency of the ac line. Therefore, the frequency must be selected by the frequency selector switch (S013).
2. As this set is equipped with a clock section, other functions may not operate when the "TIMER" or "SLEEP" button is pushed. That is, other functions may not operate just by turning the power switch on.
   Check the set according to the following chart.


POWER switch: ON
Are all the operation OK?
YES
The dial lamp should be ON.
NO
Is the clock blinking?
NO
Check the ac input or replace a fuse.
YES
Is the "TIMER" button ON?
YES
Release the "TIMER" button.
NO
Is the "SLEEP" button ON?
YES
Release the "SLEEP" button.
NO
Check the relay section which supplies the power.

The related circuit is as shown below.


PT901
AC INPUT
B+
B−
DIAL SCALE LAMP
TUNER
PHONO
CASSETTE
POWER AMP
PT902
B +
RL
S016
TIMER
Q903
TIMER
S017
SLEEP
IC951
Control signal
S901
POWER
AM
PM
18:88

3. When "SLEEP" operation does not function, check also D955.
   The control signal, which turns the relay on during the "SLEEP" operation (0 – 59 minutes), is supplied to Q903 as shown in Fig. 1.

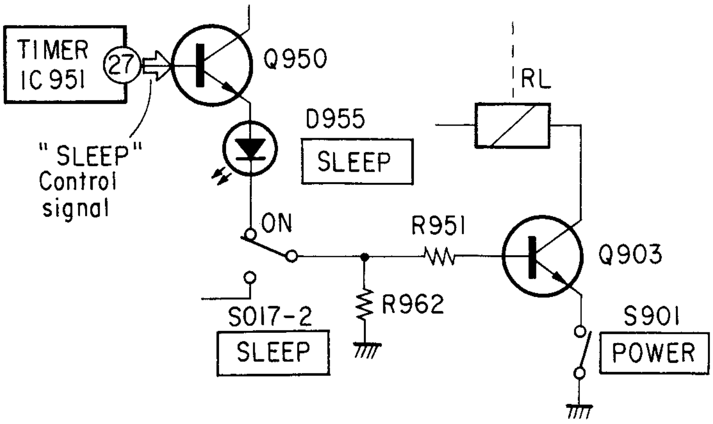

TIMER
IC951
27
Q950
"SLEEP" Control signal
D955
SLEEP
RL
ON
R951
Q903
S017-2
SLEEP
R962
S901
POWER

Fig. 1

Handling Precautions for MOS ICs

Generally, the insulation resistance of the oxide layer in MOS IC structures is very high, and the oxide layer is very thin. Because of this, it is possible that the static voltages usually present on clothes and the human body will be enough to generate a potential difference across the insulator, high enough to cause a breakdown of the insulating layer.

The following precautions should be taken while handling these ICs.

(Particular care should be taken under conditions of low humidity.)

Precautions in Replacing MOS ICs

1. Store new ICs by inserting them into a urethane-polyester cushion (which is somewhat conductive), or wrapping it in aluminum foil, so that all the pins are at the same potential.
   (The ICs should be stored in that manner until mounted on the circuit board.)

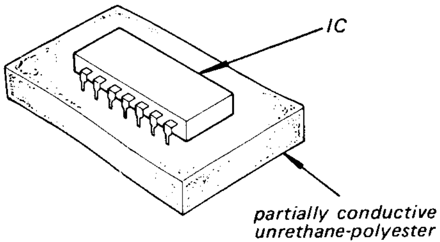

IC
partially conductive unrethane-polyester cushion

Fig. A

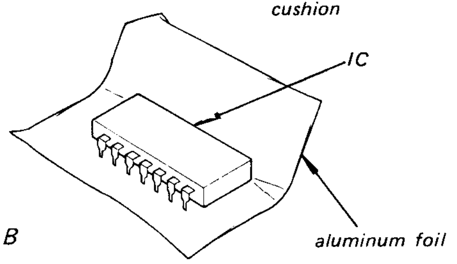

IC
aluminum foil

Fig. B

2. Check the soldering iron for possible power-line leakage current. Make sure that there is no leakage path by connecting an ohmmeter to the tip of the soldering iron and the plug as shown in Fig. C. If there is a leakage path, use some other soldering iron.

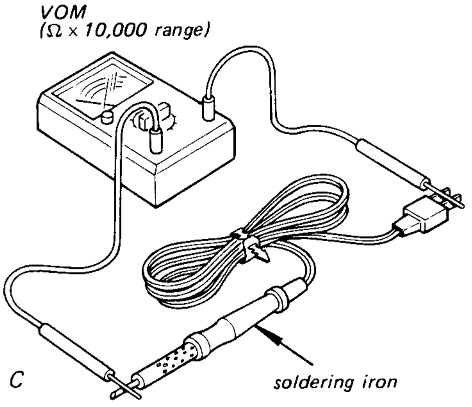

VOM
(Ω x 10,000 range)
soldering iron

Fig. C

3. Equalize any potential difference between the clothes, the tools in use, the work bench, the set being worked on, and the packaged IC by touching them all in succession with the hands or a conductive wire or tool.
4. The following are effective methods for handling ICs that remove the potential difference across the oxide layer.
   - Use a paper clip modified by soldering in a wire braid insert.

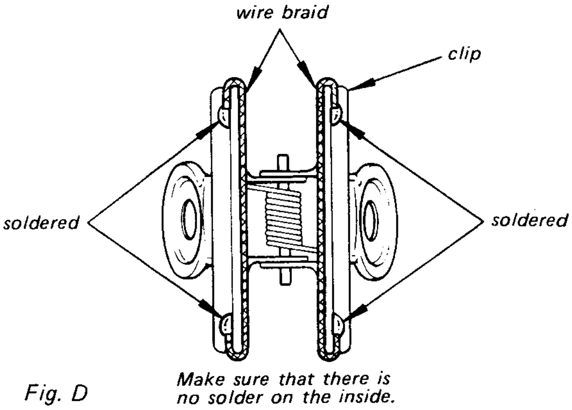

wire braid
clip
soldered
soldered
Make sure that there is no solder on the inside.

Fig. D

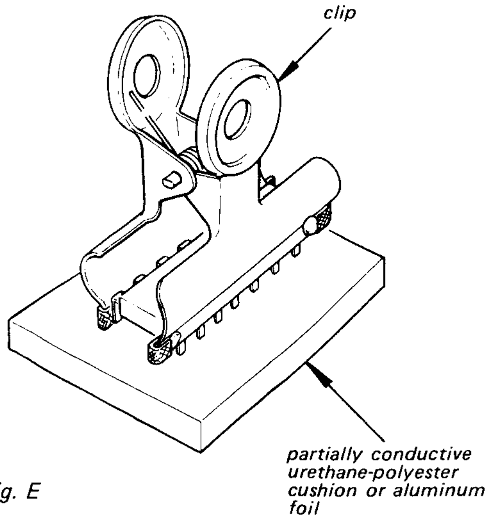

clip
partially conductive urethane-polyester cushion or aluminum foil

Fig. E

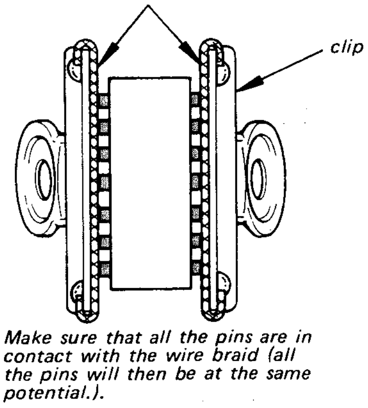

wire braid
clip
Make sure that all the pins are in contact with the wire braid (all the pins will then be at the same potential.).

Fig. F

- Take a short length of fine bare wire and wind it around the IC so that it shorts all the pins of the IC, while it is still in the urethane-polyester cushion or aluminum foil. This ensures that all the pins are at the same potential.

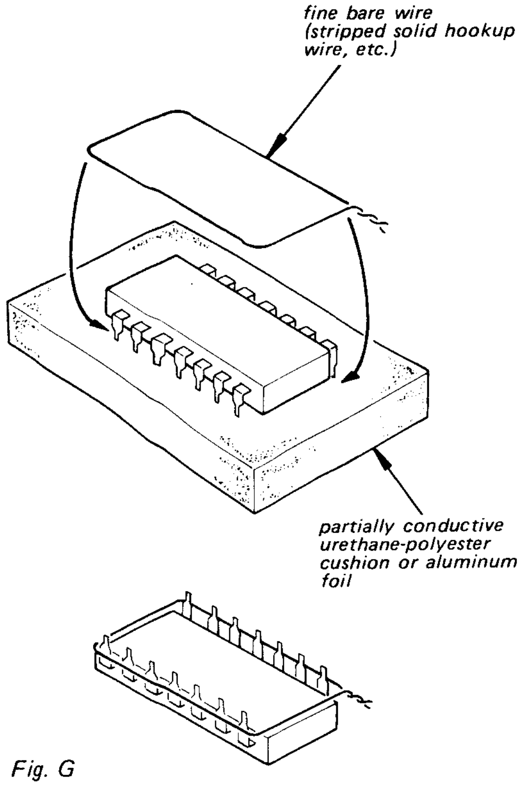

fine bare wire (stripped solid hookup wire, etc.)
partially conductive urethane-polyester cushion or aluminum foil

Fig. G

- When it is necessary to handle the IC with the fingers, do not touch any pin, and hold the IC at the ends of its plastic-package case as shown in Fig. H.

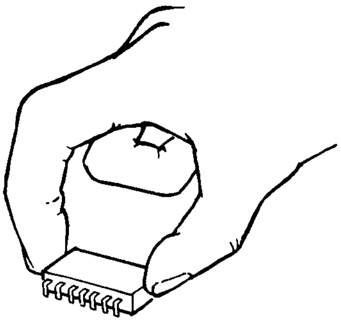


Fig. H

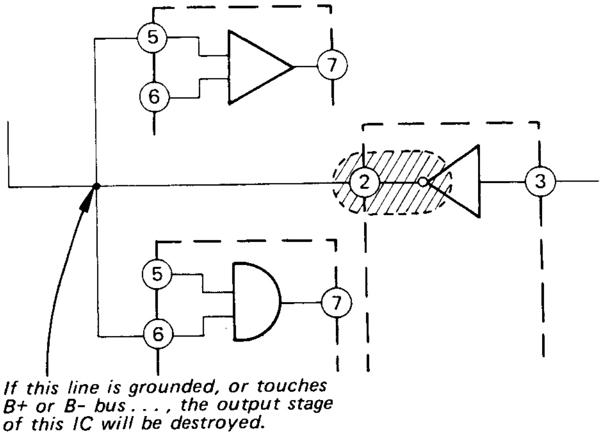
5. Method of Mounting
Insert the IC while holding it with the modified clip, and solder all the pins with the clip still shorting the pins. (Similarly, solder all the pins while the bare shorting wire is still wound around them.). Remove the clip or the bare shorting wire only after all the pins have been soldered.

Precaution while Checking C-MOS ICs

The C-MOS ICs (Complementary MOS) are MOS ICs that have their output sections made up of N-channel and P-channel push-pull stages to increase their speed of operation. If the output terminal of these ICs comes into contact with B+ or B- voltage, then the FET which is ON at that time will either become shorted or open.

This is valid for all the output sections that are connected together by the interconnections. Even the circuits that are physically separated (and not on the same board) can be destroyed simultaneously.

Example:

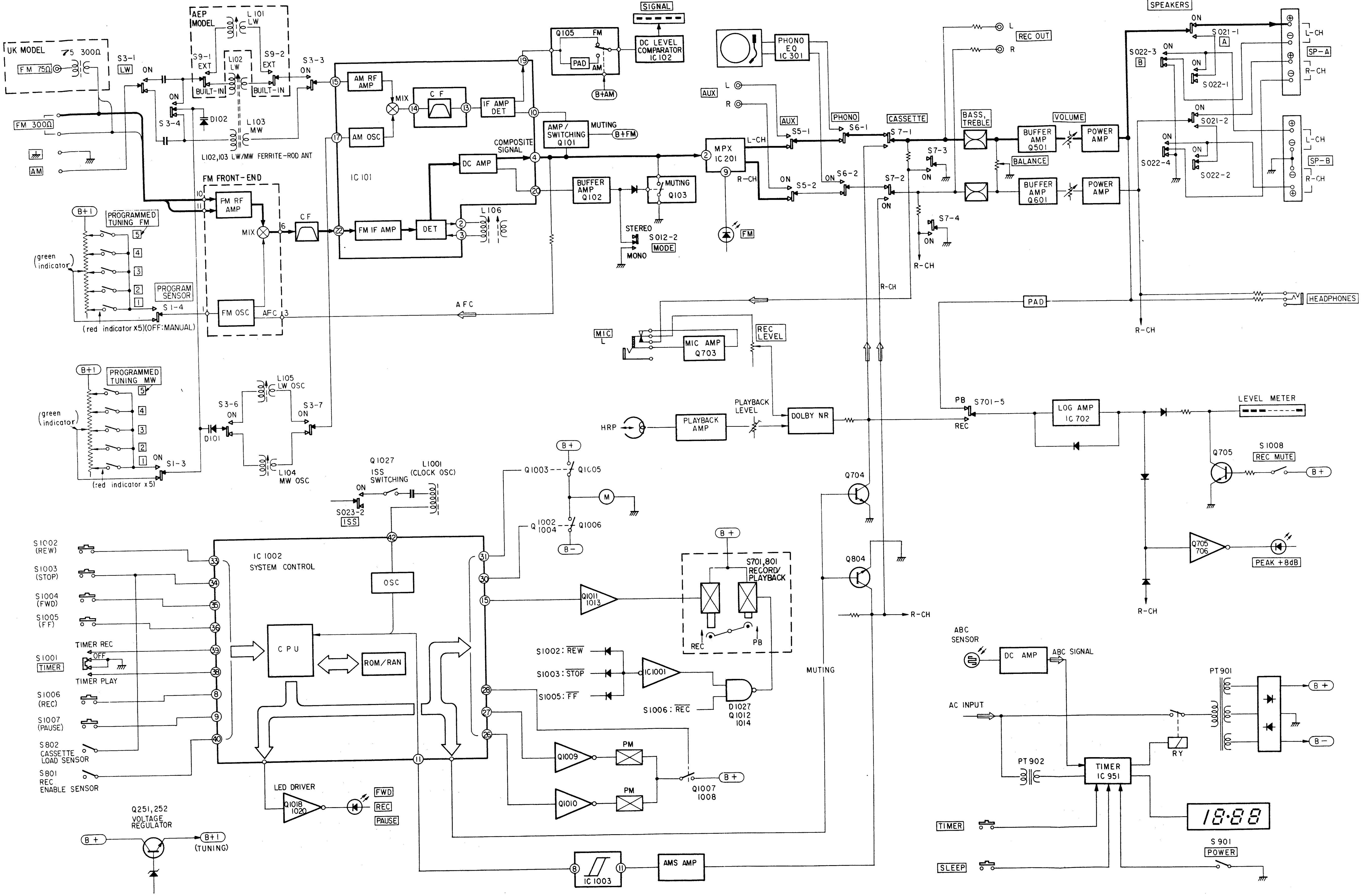


If this line is grounded, or touches B+ or B- bus . . . , the output stage of this IC will be destroyed.

Fig. I

SECTION 1
OUTLINE

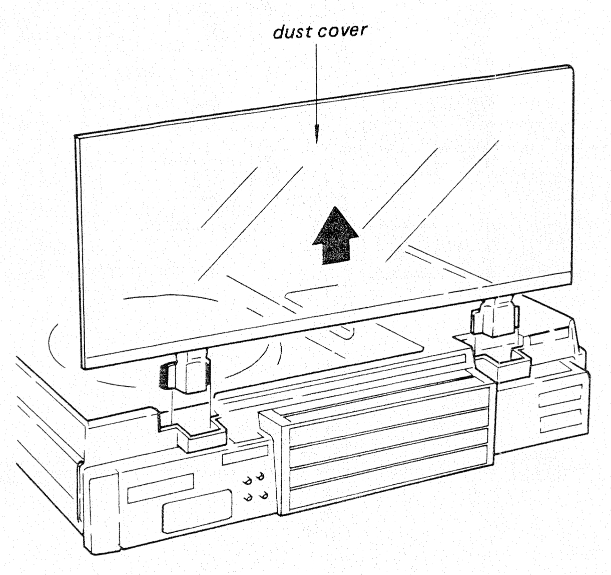
1-1. BLOCK DIAGRAM


UK MODEL
75 300Ω
FM 75Ω
FM 300Ω
AM
AEP MODEL
L101 LW
S9-1 EXT BUILT-IN
L102 LW
S9-2 EXT BUILT-IN
L103 MW
L102,103 LW/MW FERRITE-ROD ANT
S3-1 LW ON
S3-3 ON
S3-4 ON
D102
AM RF AMP
MIX
AM OSC
C F
IF AMP DET
IC 101
FM FRONT-END
FM RF AMP
MIX
FM OSC
AFC
C F
FM IF AMP
DET
DC AMP
L106
COMPOSITE SIGNAL
Q105 FM PAD AM
B+AM
SIGNAL
DC LEVEL COMPARATOR IC102
AMP/ SWITCHING Q101
MUTING
B+FM
BUFFER AMP Q102
MUTING Q103
STEREO
MONO
S012-2 MODE
MPX IC 201
L-CH
R-CH
FM
AUX
L
R
PHONO EQ IC 301
AUX S5-1
S5-2
PHONO S6-1
S6-2
CASSETTE S7-1
S7-2
S7-3
S7-4
ON
R-CH
REC OUT
BASS, TREBLE
BALANCE
BUFFER AMP Q501
BUFFER AMP Q601
VOLUME
POWER AMP
SPEAKERS
S021-1 A
S022-1
S022-3 B
S021-2
S022-4
S022-2
SP-A
SP-B
L-CH
R-CH
PAD
HEADPHONES
B+1
PROGRAMMED TUNING FM
(green indicator)
PROGRAM SENSOR
S1-4
(red indicator x5)(OFF:MANUAL)
AFC
PROGRAMMED TUNING MW
S1-3
(:red indicator x5)
L105 LW OSC
S3-6 ON
S3-7 ON
D101
L104 MW OSC
MIC L
MIC AMP Q703
REC LEVEL
HRP
PLAYBACK AMP
PLAYBACK LEVEL
DOLBY NR
PB S701-5 REC
LOG AMP IC702
LEVEL METER
Q705
S1008 REC MUTE
B+
Q705 706
PEAK +8dB
Q704
Q804
MUTING
Q1027 ISS SWITCHING
L1001 (CLOCK OSC)
S023-2 ISS
Q1003 Q1005
M
Q1002 1004 Q1006
B−
S1002 (REW)
S1003 (STOP)
S1004 (FWD)
S1005 (FF)
TIMER REC
S1001 TIMER OFF
TIMER PLAY
S1006 (REC)
S1007 (PAUSE)
S802 CASSETTE LOAD SENSOR
S801 REC ENABLE SENSOR
IC 1002 SYSTEM CONTROL
OSC
CPU
ROM/RAN
Q1011 1013
S701,801 RECORD/PLAYBACK
REC PB
S1002: REW
S1003: STOP
S1005: FF
IC1001
S1006: REC
D1027 Q1012 1014
Q1009 PM
Q1010 PM
Q1007 1008
LED DRIVER Q1018 1020
FWD
REC
PAUSE
Q251,252 VOLTAGE REGULATOR
B+1 (TUNING)
IC 1003
AMS AMP
ABC SENSOR
DC AMP
ABC SIGNAL
AC INPUT
PT901
PT902
RY
TIMER IC 951
18:88
TIMER
SLEEP
S901 POWER

SECTION 2
DISASSEMBLY

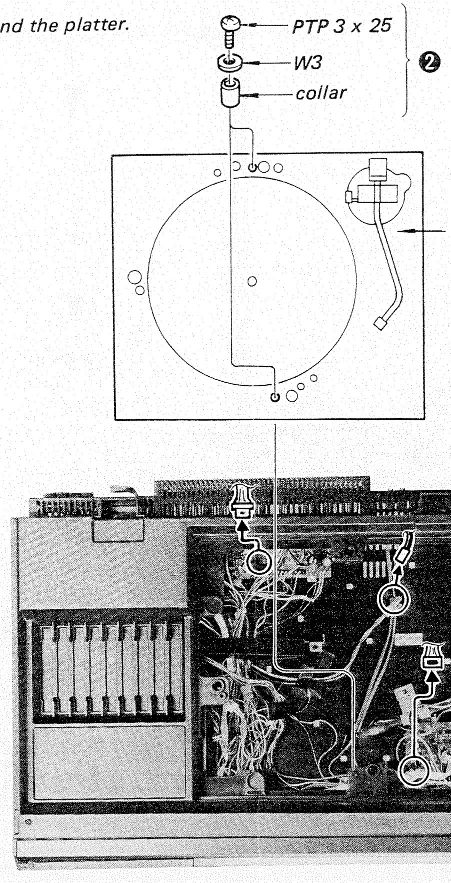
Note: Follow the disassembly procedure in the numerical order given.

DUST COVER



RECORD PLAYER SECTION

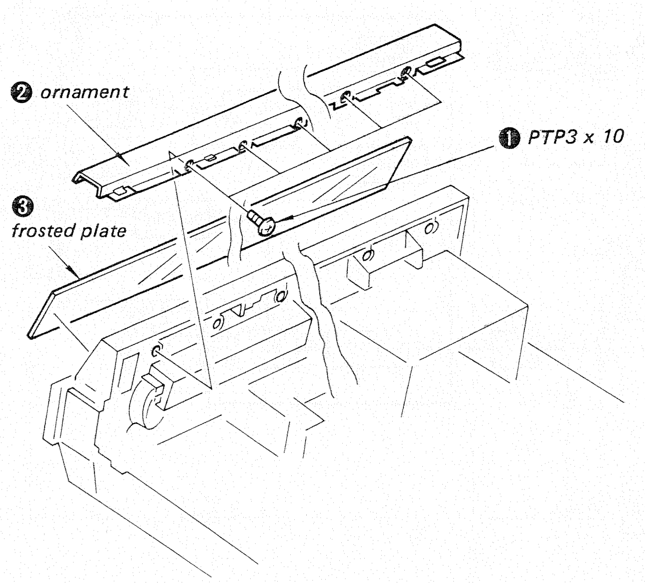
❶ *Remove the rubber mat and the platter.*


PTP 3 x 25
W3
collar
❷

❸ *Lift up the record player section about 10cm and remove three connectors.*

❹ *Remove the record player section.*

FROSTED PLATE


❷ ornament
❶ PTP3 x 10
❸ frosted plate

CIRCUIT BOARD

- See page 13.

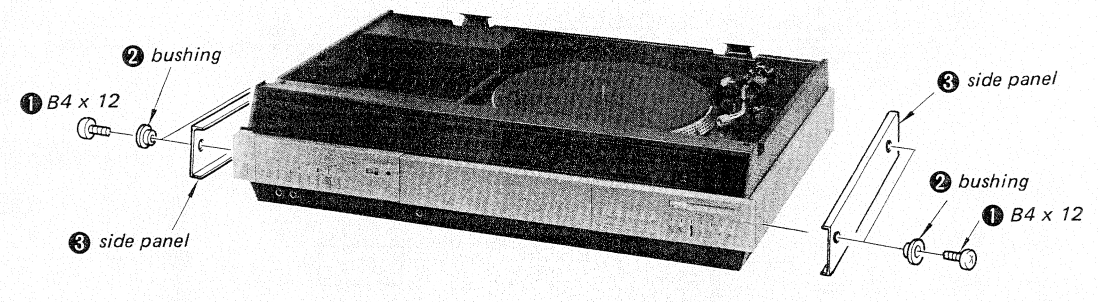
DIAL CORD STRINGING

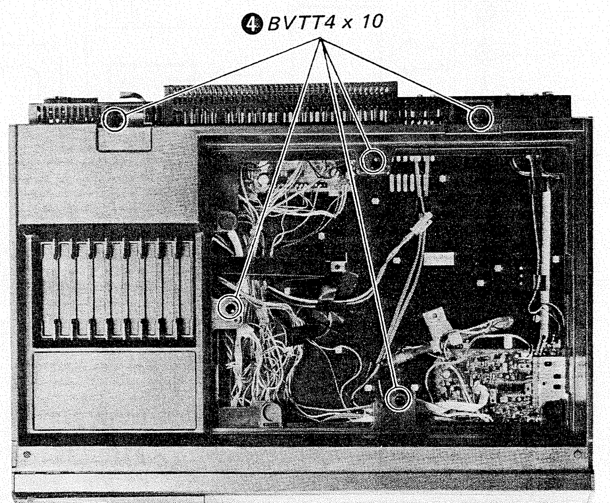
- See page 17.

LOADING CORD STRINGING

- See page 16.

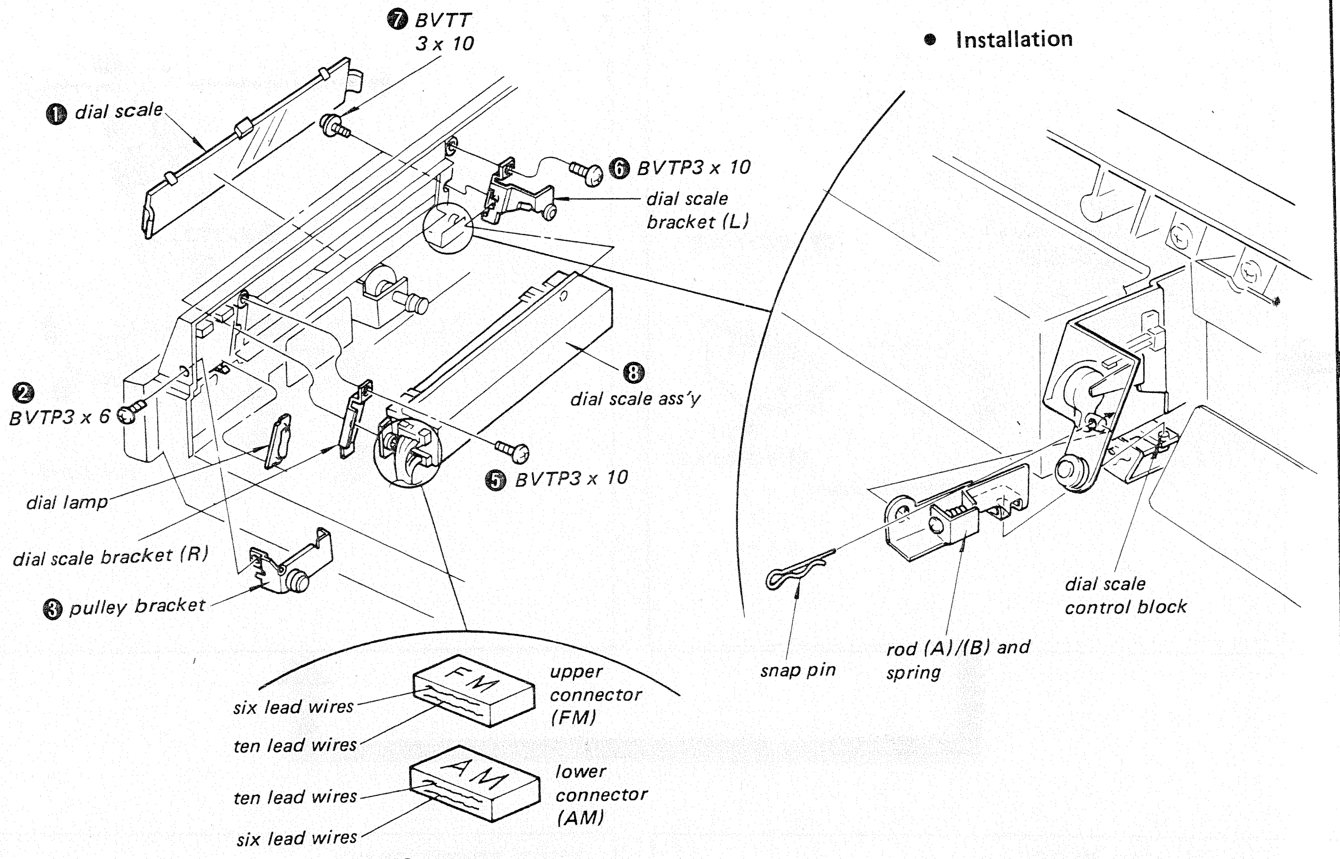
CASE


❶ B4 x 12
❷ bushing
❸ side panel
❸ side panel
❷ bushing
❶ B4 x 12



❺ *Lift up the case and remove it.*

DIAL SCALE


❼ BVTT
3 x 10
❶ dial scale
❻ BVTP3 x 10
dial scale
bracket (L)
❽
dial scale ass'y
❷
BVTP3 x 6
❺ BVTP3 x 10
dial lamp
dial scale bracket (R)
❸ pulley bracket
FM
upper
connector
(FM)
six lead wires
ten lead wires
AM
lower
connector
(AM)
ten lead wires
six lead wires
● Installation
snap pin
rod (A)/(B) and
spring
dial scale
control block

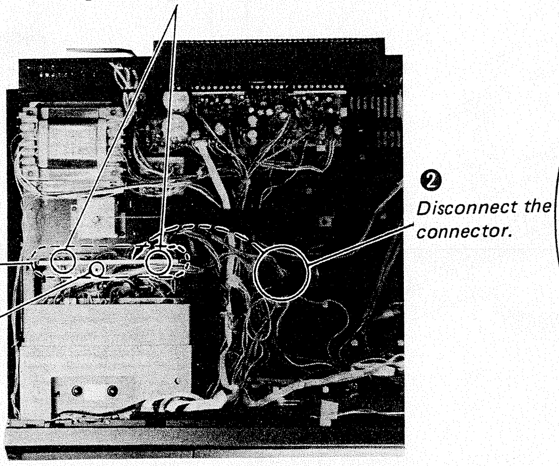
❹ Remove two connectors.

UPPER CASSETTE CASE

- See page 14.

CASSETTE RECORDER SECTION

❶ Disconnect two connectors.



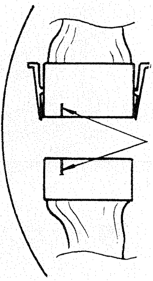
❷ Disconnect the connector.

❸ BVTP3 x 10

❹ Remove the stopper together with loading cord and two springs.

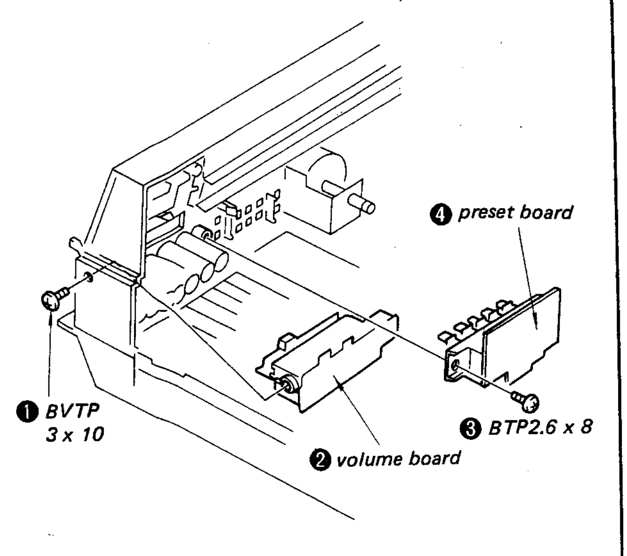
❺ Press the EJECT button and pull out the cassette recorder block.

● Installation

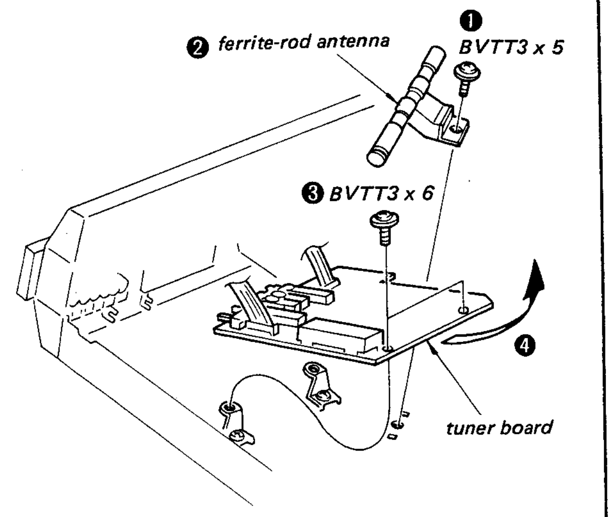


Match the marking and connect.

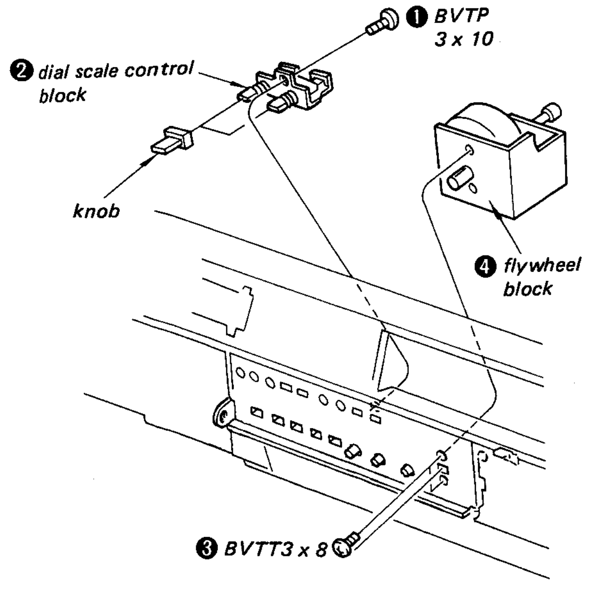
VOLUME and PRESET BOARD


❹ preset board
❶ BVTP 3 x 10
❸ BTP2.6 x 8
❷ volume board

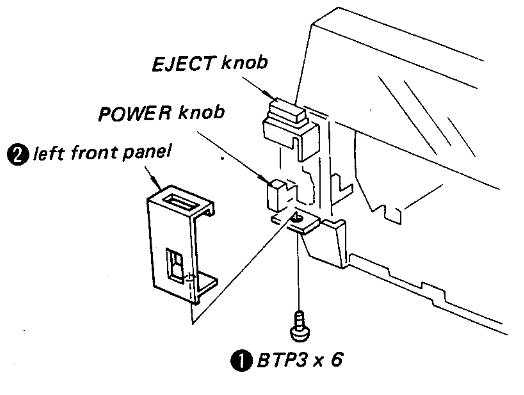
TUNER BOARD


❷ ferrite-rod antenna
❶ BVTT3 x 5
❸ BVTT3 x 6
❹
tuner board

FLYWHEEL BLOCK


❶ BVTP 3 x 10
❷ dial scale control block
knob
❹ flywheel block
❸ BVTT3 x 8

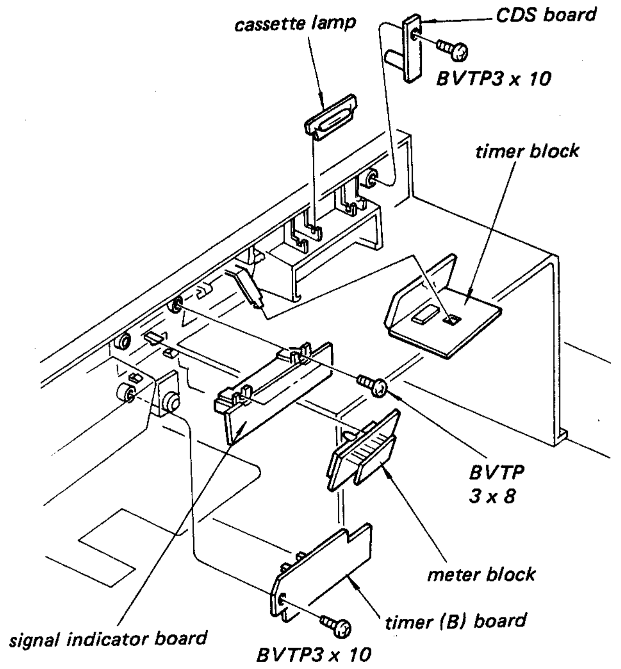
LEFT FRONT PANEL


EJECT knob
POWER knob
❷ left front panel
❶ BTP3 x 6

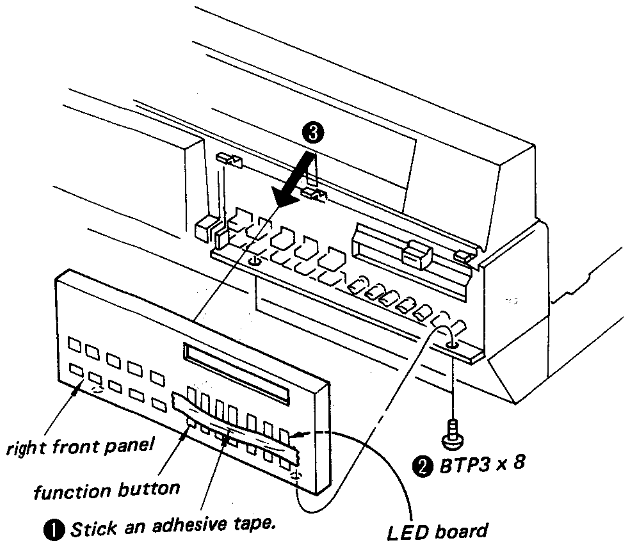
FROSTED PLATE

- See page 10.

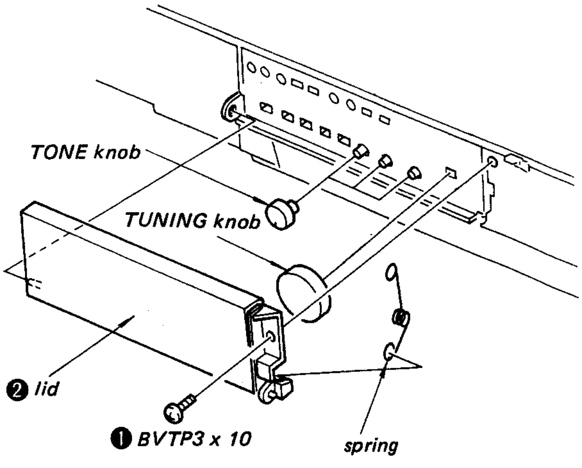
CIRCUIT BOARD


cassette lamp
CDS board
BVTP3 x 10
timer block
BVTP
3 x 8
meter block
timer (B) board
signal indicator board
BVTP3 x 10

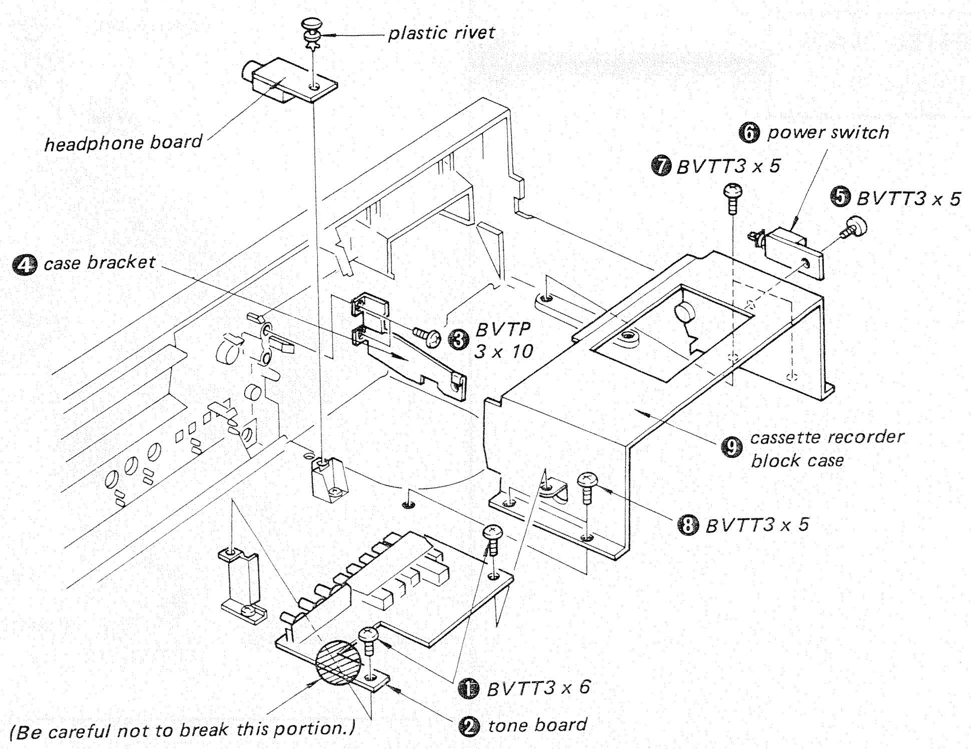
RIGHT FRONT PANEL


❸
right front panel
function button
❶ Stick an adhesive tape.
❷ BTP3 x 8
LED board

LID


TONE knob
TUNING knob
❷ lid
❶ BVTP3 x 10
spring

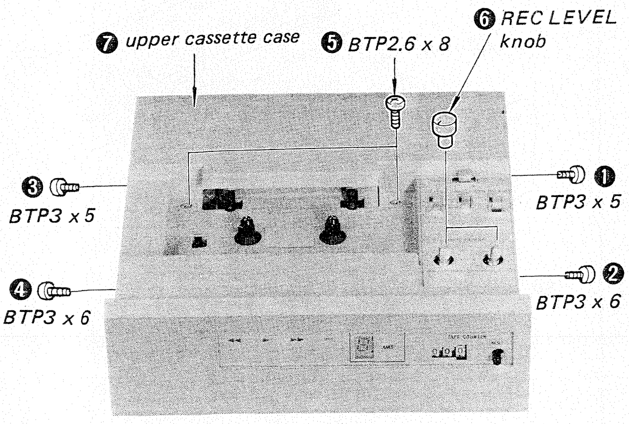
CASSETTE RECORDER BLOCK CASE


plastic rivet
headphone board
❻ power switch
❼ BVTT3 x 5
❺ BVTT3 x 5
❹ case bracket
❸ BVTP 3 x 10
❾ cassette recorder block case
❽ BVTT3 x 5
❶ BVTT3 x 6
❷ tone board
(Be careful not to break this portion.)

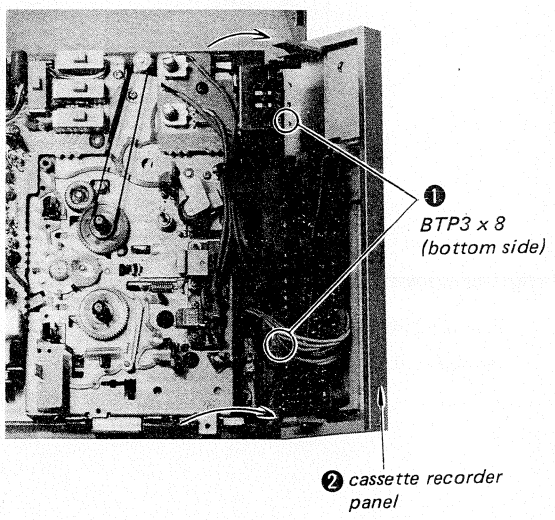
CASSETTE RECORDER SECTION

- See page 11.

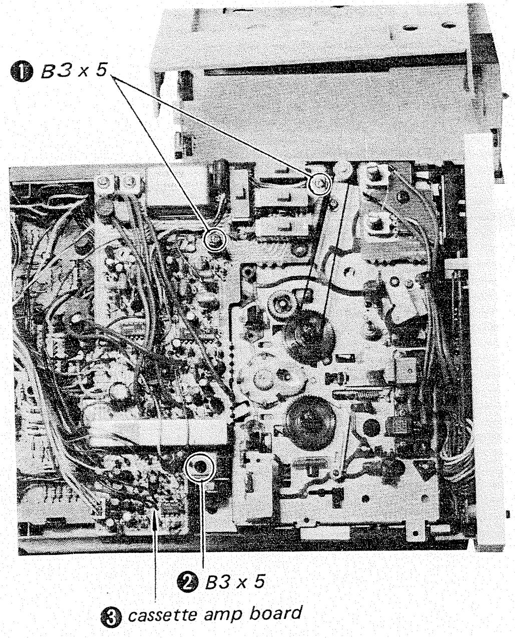
UPPER CASSETTE CASE


❼ upper cassette case
❺ BTP2.6 x 8
❻ REC LEVEL knob
❸ BTP3 x 5
❶ BTP3 x 5
❹ BTP3 x 6
❷ BTP3 x 6

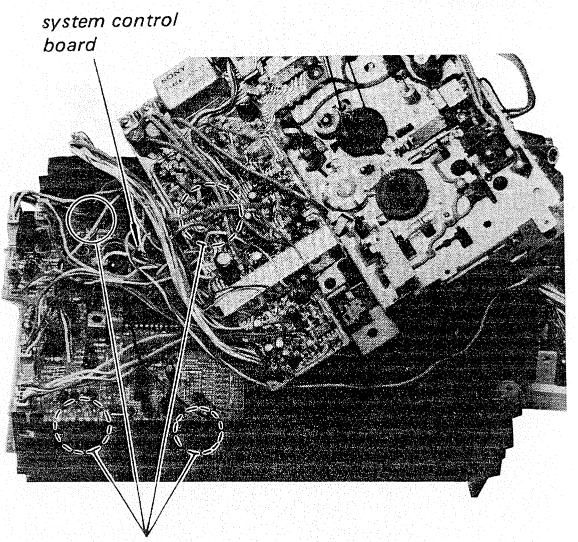
CASSETTE RECORDER PANEL


❶ BTP3 x 8 (bottom side)
❷ cassette recorder panel

CASSETTE AMP BOARD

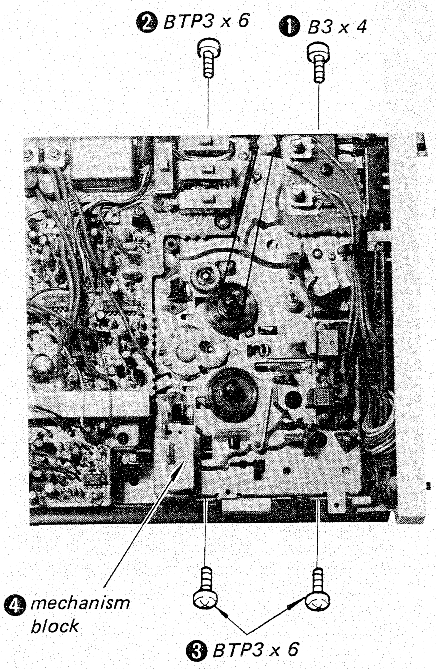

❶ B3 x 5
❷ B3 x 5
❸ cassette amp board

SYSTEM CONTROL BOARD

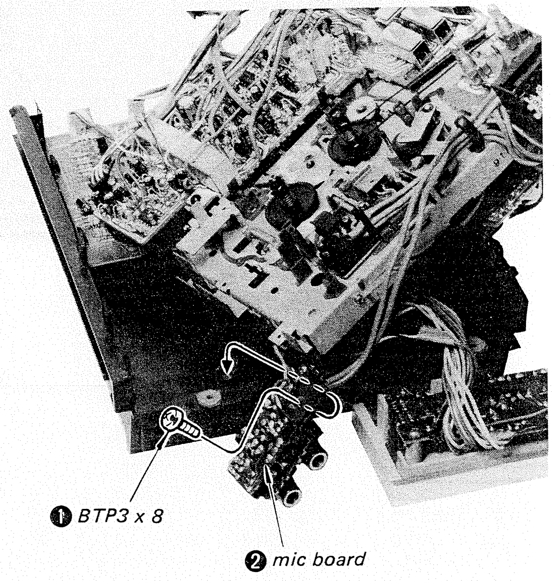

system control board

Unhook the hook and remove the system control board.

MECHANISM BLOCK

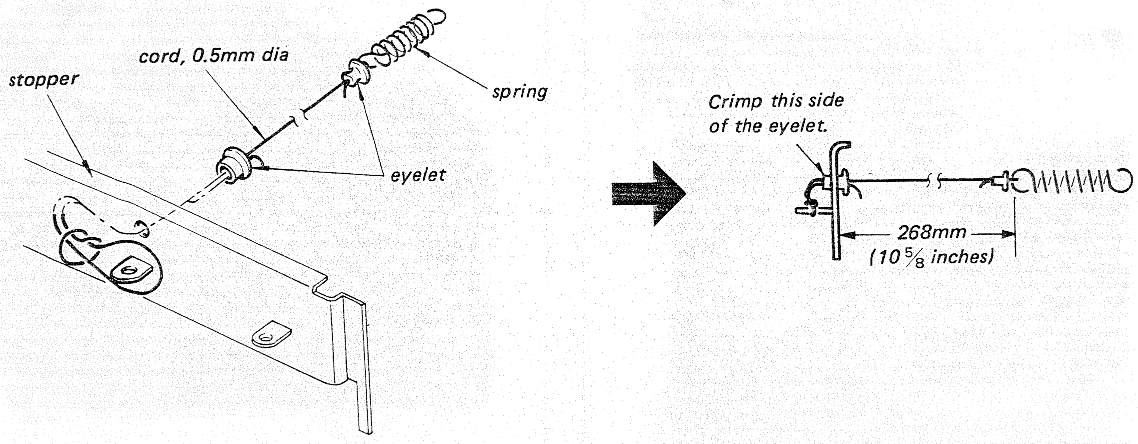

❷ BTP3 x 6
❶ B3 x 4
❹ mechanism block
❸ BTP3 x 6

MIC BOARD

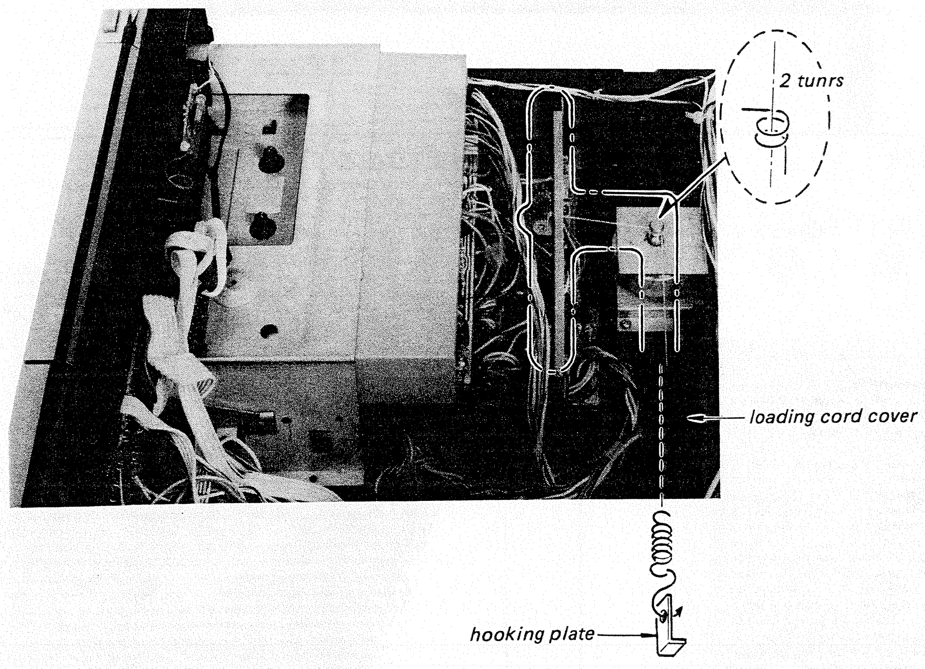

❶ BTP3 x 8
❷ mic board

LOADING CORD STRINGING

- **Preparation**

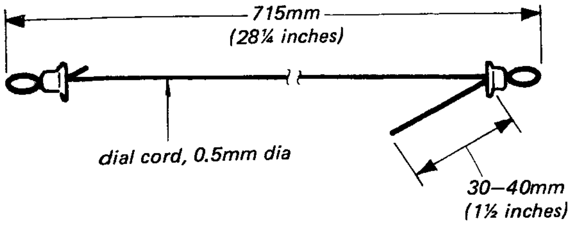

cord, 0.5mm dia
stopper
spring
eyelet
Crimp this side
of the eyelet.
268mm
(10 5/8 inches)

- **Stringing**

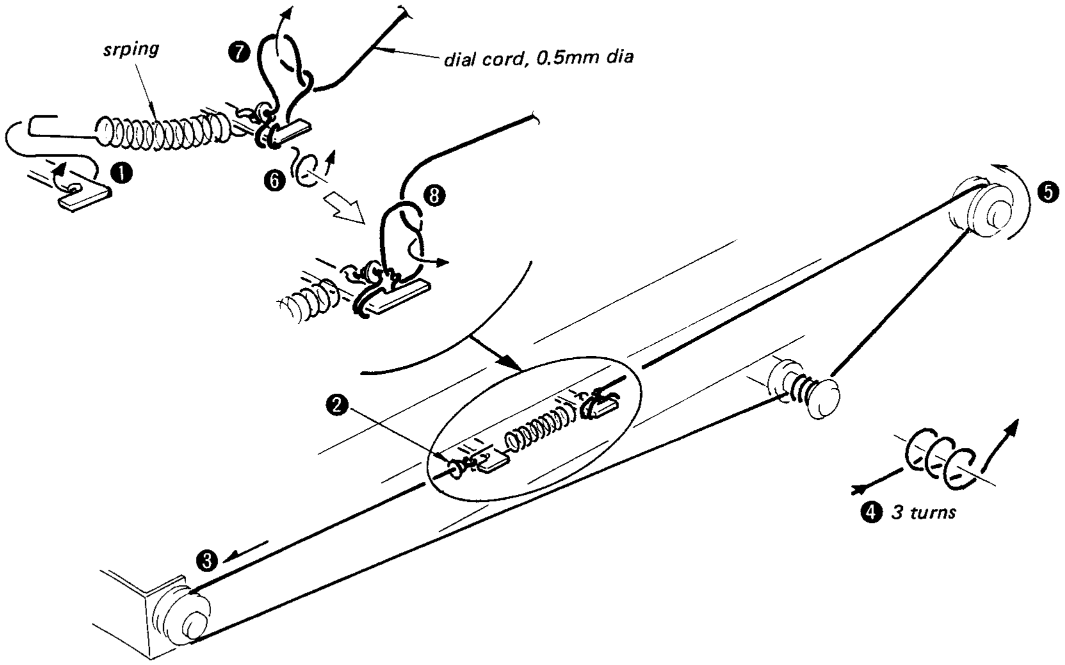

2 tunrs
loading cord cover
hooking plate

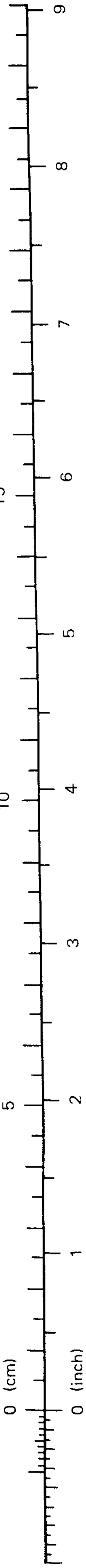
DIAL CORD STRINGING

- **Preparation**


715mm
(28¼ inches)
dial cord, 0.5mm dia
30–40mm
(1½ inches)

- **Stringing**


srping
❼
dial cord, 0.5mm dia
❶
❻
❽
❷
❺
❸
❹ 3 turns


20
15
10
5
0 (cm)
9
8
7
6
5
4
3
2
1
0 (inch)

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

• RECORD PLAYER SECTION

The following procedures should be performed on a level surface. Be careful not to damage the stylus tip while making adjustments.

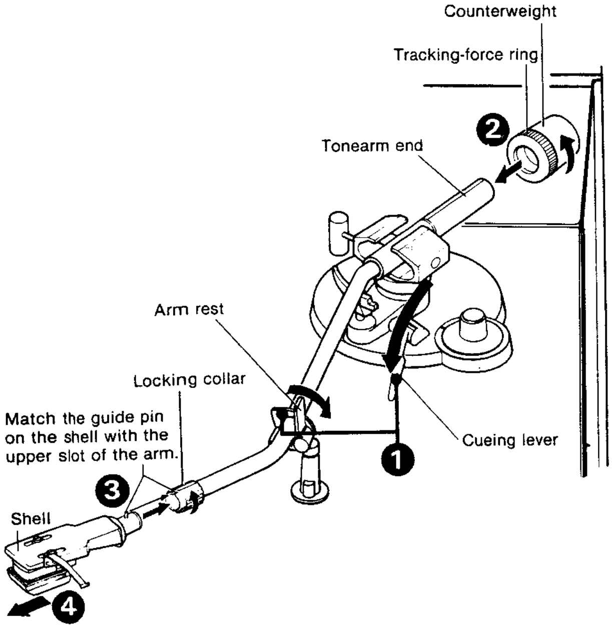
Preparation

❶ Release the tonearm from the arm rest and bring the tonearm end towards the corner of the cabinet. Lower the cueing lever.

❷ Insert and turn the counterweight counterclockwise several turns. (The tracking-force ring turns simultaneously.)

❸ Plug the shell into the tonearm and turn the locking collar counterclockwise until the shell is firmly locked.

❹ Remove the stylus guard, if fitted.


Counterweight
Tracking-force ring
Tonearm end
❷
Arm rest
Locking collar
Match the guide pin on the shell with the upper slot of the arm.
Cueing lever
❶
❸
Shell
❹

Longitudinal balance adjustment *1

Before adjusting the longitudinal balance of the tonearm, lower the tonearm platform located in front of the arm base as follows:

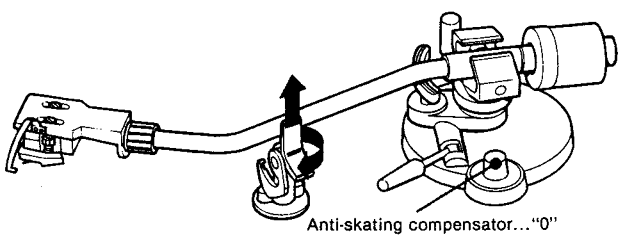
❶ Set the record size selector [SIZE SELECT] to MANUAL.

❷ Push the START/STOP button.

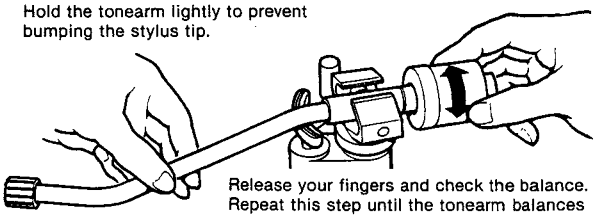
❸ Turn the turntable more than four times clockwise by your hand. The tonearm platform will be lowered.

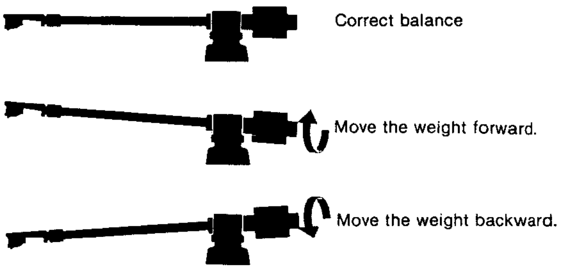
Then adjust the longitudinal balance as follows:

❶ Be sure that the anti-skating compensator is set at "0". Be sure to release the tonearm from the arm rest. Pull up the upper portion of the arm rest and turn it 180 degrees clockwise so as to lower it.

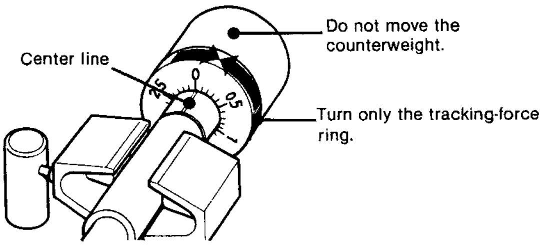

Anti-skating compensator..."0"

❷ Turn the counterweight as required until the tonearm is in a horizontally balanced position. (The tracking-force ring turns simultaneously.)


Hold the tonearm lightly to prevent bumping the stylus tip.
Release your fingers and check the balance. Repeat this step until the tonearm balances


Correct balance
Move the weight forward.
Move the weight backward.

❸ While holding the counterweight at the balanced position, separately turn the tracking-force ring until the "0" indication meets the center line on the tonearm. Recheck the balance.


Center line
Do not move the counterweight.
Turn only the tracking-force ring.
2.5
0
0.5
1

❹ Pull up the arm rest and turn it counterclockwise so that the arm rest returns to its original position.

Secure the tonearm to the arm rest again, and install the stylus guard.

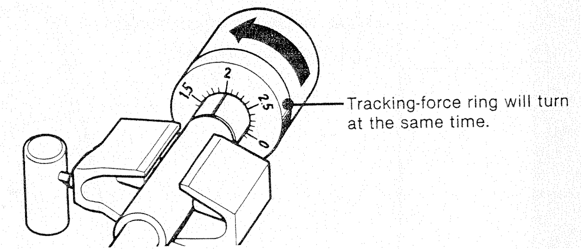
❺ After the longitudinal balance adjustment has completed, be sure to lift up the tonearm platform to the original position by pressing the START/STOP button and turning the turntable more than four times clockwise by your hand.

***1 Longitudinal balance adjustment**

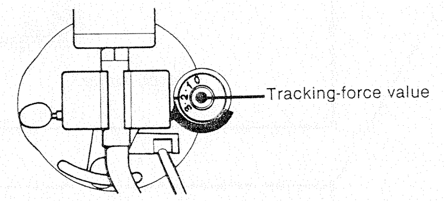
While playing the record, the weight of the tonearm is supported by the arm pivot and only tracking force is applied to the stylus tip. To accomplish this, the tonearm must first be balanced horizontally, with the tracking force indicator set at "0".

Tracking-force adjustment *2
Turn the counterweight counterclockwise so that the recommended tracking-force figure for your cartridge is aligned with the center line on the tonearm. The maximum tracking force available is 3 grams.

- The recommended tracking force for the supplied cartridge is 2 g.



Anti-skating compensation *3
Turn the anti-skating compensator so that the guide mark meets the tracking-force value used.



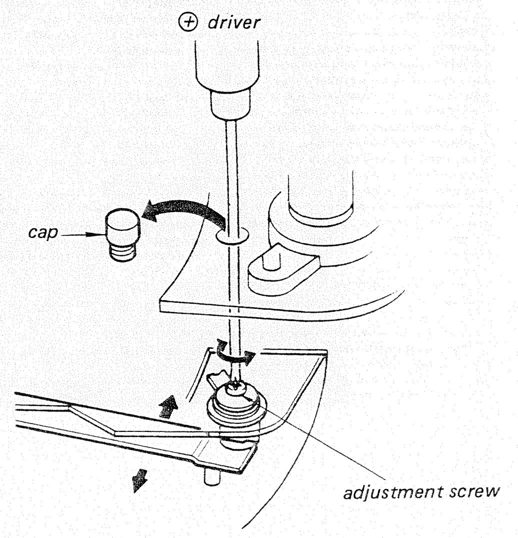
***2 Tracking force**
After the longitudinal balance adjustment, apply the recommended tracking force weight so that the stylus tip will trace the music groove accurately.

***3 Anti-skating compensation**
While the record is being played, the frictional force between the record groove and the stylus produces a force that tends to drive the tonearm toward the center of the record.
The anti-skating compensation cancels the above mentioned force, and is applied in accordance with the tracking force.
Incorrect anti-skating compensation results in sound distortion and uneven wear on both the stylus and the record.

Tonearm Drop-point Adjustment

Setting:

POWER switch: ON



1. Set the record size selector lever to the 30 (12") position and make sure that the stylus drops on the specified point of the test record.

   test record: YFSC-16

Record size selector lever position	Count of drop-point
30 (12")	7 to 13

2. If necessary, insert the screw-driver into the hole and adjust the drop-point by turning the adjustment screw.

   To change the drop-point outward:
   Turn the adjustment screw slightly counterclockwise.
   To change the drop-point inward:
   Turn the adjustment screw slightly clockwise.

3. Once it is properly adjusted with a 30 cm (12") record, the drop-point will be correct for both 17 cm (7") and 25 cm (10") records.

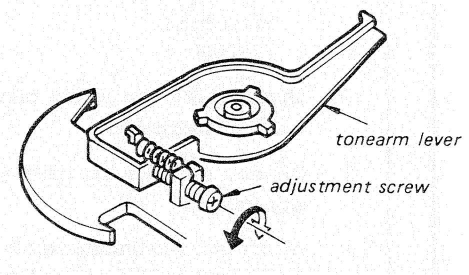
Note: The stylus drop-point changes about 12 mm (½") by one turn of the adjustment screw.

Automatic Return Position Adjustment

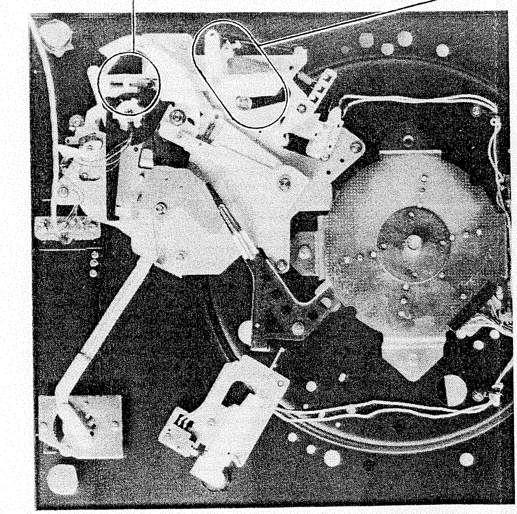
Setting:

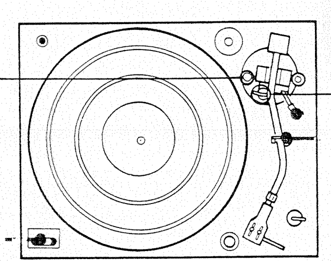
POWER switch: ON

1. Set the stylus on the groove of the test record (YFSB-6).
2. Turn the adjustment screw so that the tonearm starts to return at count of 15 – 17.



Turning direction	Count of return point
clockwise	down
counterclockwise	up



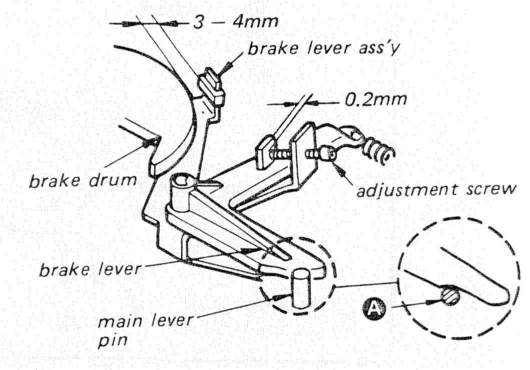


Brake Lever Position Adjustment

Setting:

POWER switch: OFF

1. Secure the tonearm to the arm rest.
2. Rotate the drive gear by hand and set the main lever pin to the position Ⓐ.
3. Turn the adjustment screw so that the clearance between the brake drum and the brake lever ass'y is 3 – 4mm as shown below.



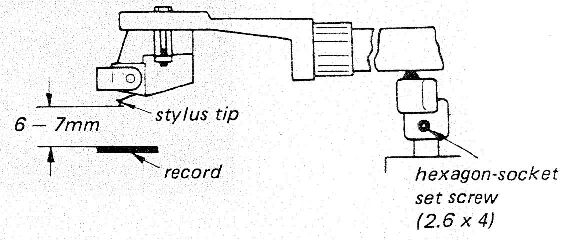
Tonearm Height Adjustment

Setting:

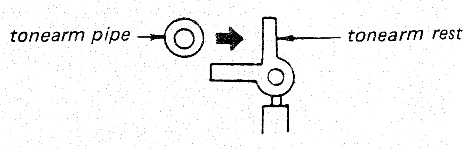
POWER switch: OFF

Procedure:

1. Bring the tonearm toward the center of the record and put the stylus in the last groove of the record.
2. Slowly turn the turntable by hand to lift the tonearm.
3. Confirm that the clearance between the stylus tip and the record is 6 – 7mm as shown below.
   If necessary, adjust the height of the arm lifter by loosening the hexagon-socket set screw.



4. After the adjustment, confirm that the tonearm smoothly returns to the tonearm rest as shown below.



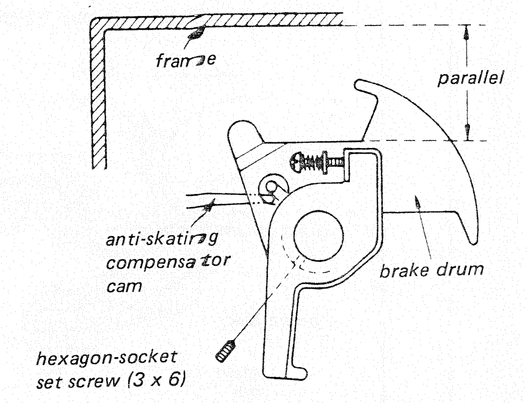
Brake Drum Position Adjustment

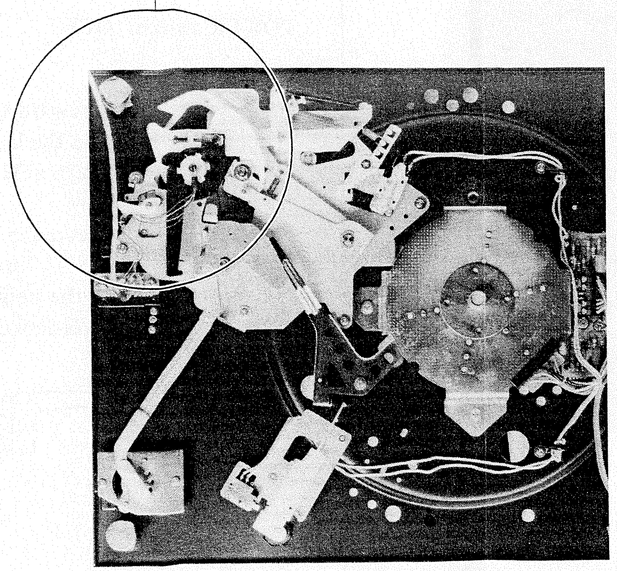
Setting:

POWER switch: OFF

Procedure:

1. Secure the tonearm to the arm rest.
2. Adjust the position of the brake drum by loosening the hexagon-socket set screw as shown below.


frame
parallel
anti-skating compensator cam
brake drum
hexagon-socket set screw (3 x 6)



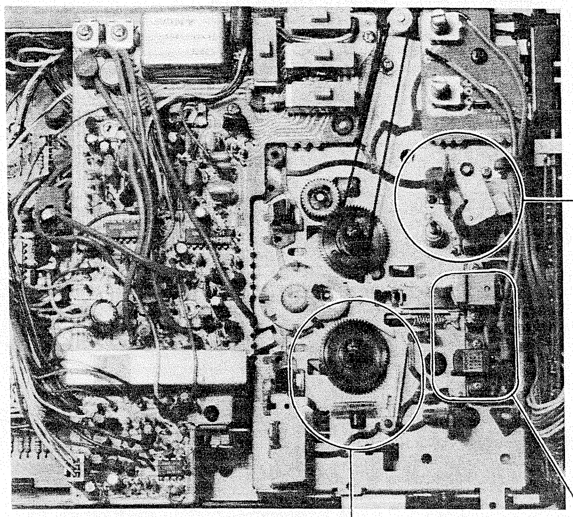
• CASSETTE RECORDER SECTION

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

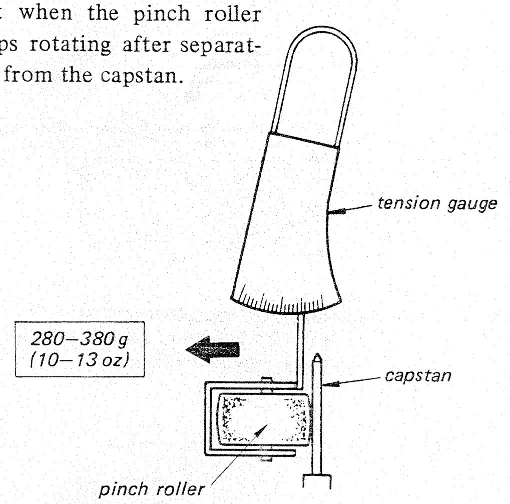
record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply a suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.



Pinch Roller Pressure Measurement
— Forward Mode —

Slowly pull the pinch roller and read the tension gauge just when the pinch roller stops rotating after separating from the capstan.

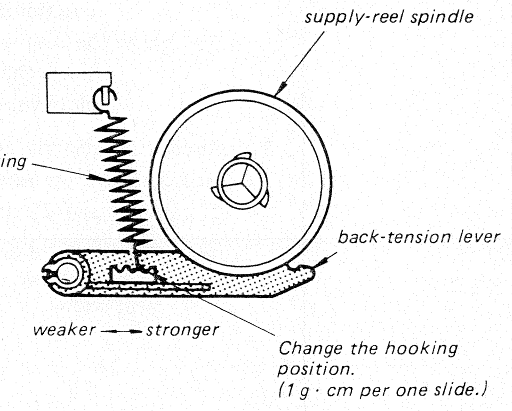

tension gauge
280–380 g (10–13 oz)
capstan
pinch roller

Torque Measurement and Back Tension Torque Adjustment

1.

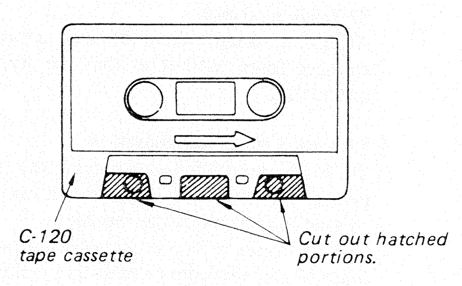
Torque	Torque meter	Meter reading
Forward	CQ-102C	30–55 g · cm (0.42–0.76 oz · inch)
Back tension	CQ-102C	2.5–4.5 g · cm (0.04–0.06 oz · inch)

2. If the specified back-tension torque is not obtained, change the hooking position.

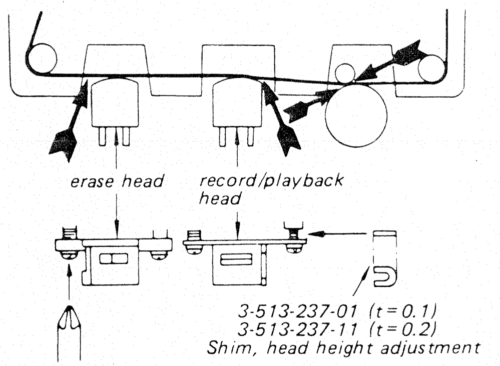

supply-reel spindle
spring
back-tension lever
weaker ⟵⟶ stronger
Change the hooking position.
(1 g · cm per one slide.)

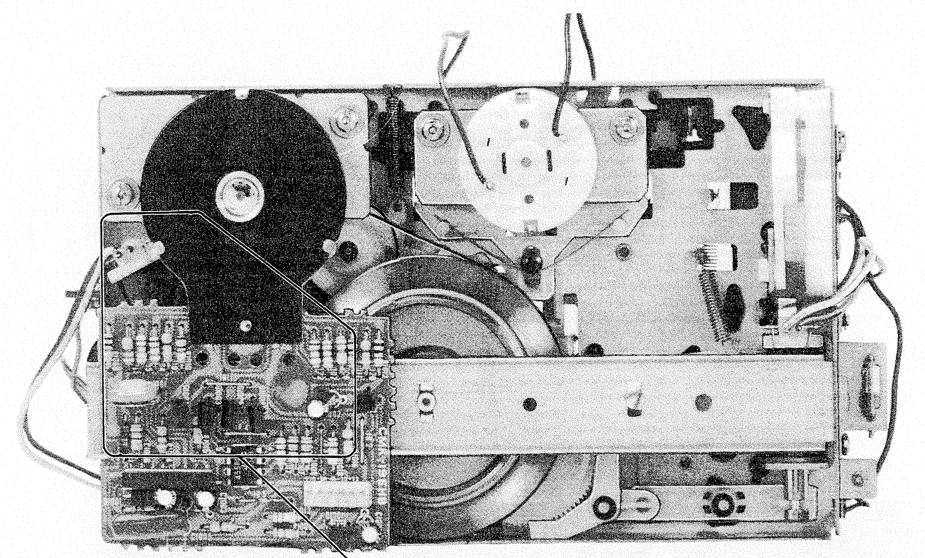
Head Height Adjustment

1. Prepare an adjustment cassette as shown below.


C-120
tape cassette
Cut out hatched portions.

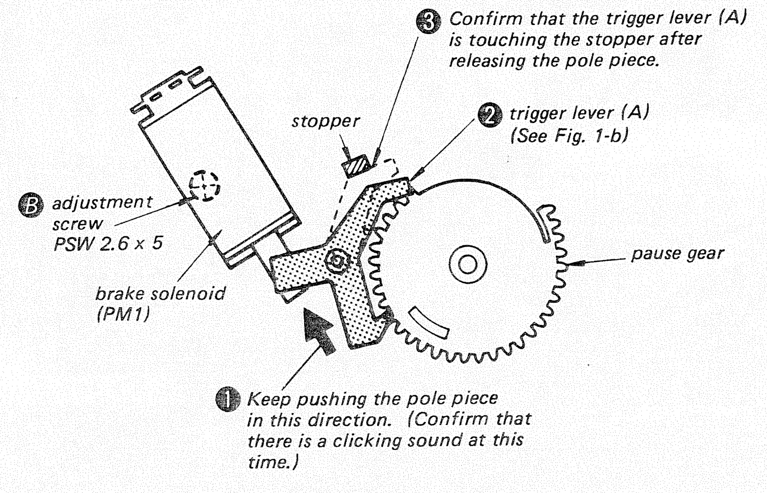
2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at portions shwon by arrow.


erase head
record/playback head
3-513-237-01 (t=0.1)
3-513-237-11 (t=0.2)
Shim, head height adjustment



Brake Solenoid (PM1) Position Adjustment

– Stop Mode –



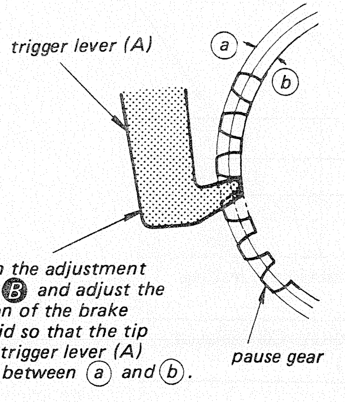
stopper
Ⓑ adjustment screw PSW 2.6 x 5
brake solenoid (PM1)
pause gear

❸ Confirm that the trigger lever (A) is touching the stopper after releasing the pole piece.

❷ trigger lever (A) (See Fig. 1-b)

❶ Keep pushing the pole piece in this direction. (Confirm that there is a clicking sound at this time.)

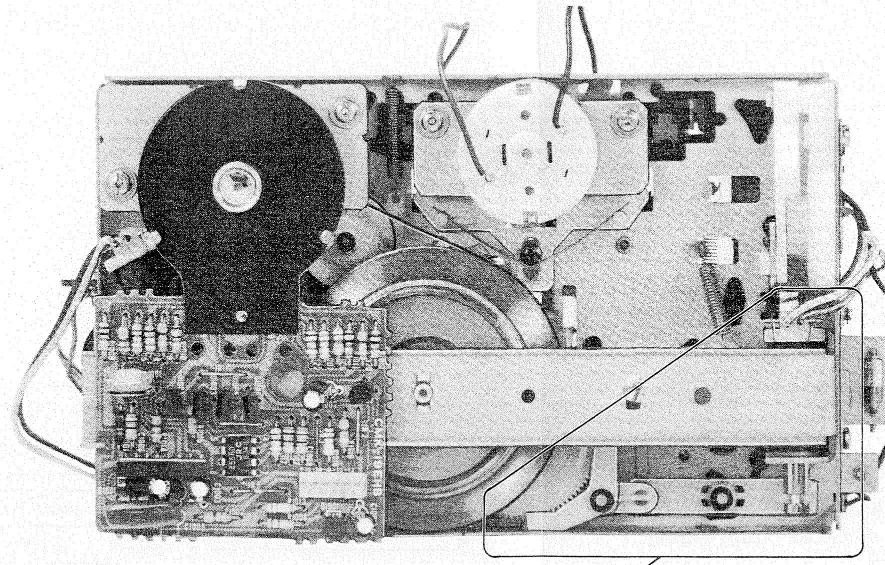
Fig. 1-a.



trigger lever (A)
ⓐ
ⓑ
pause gear

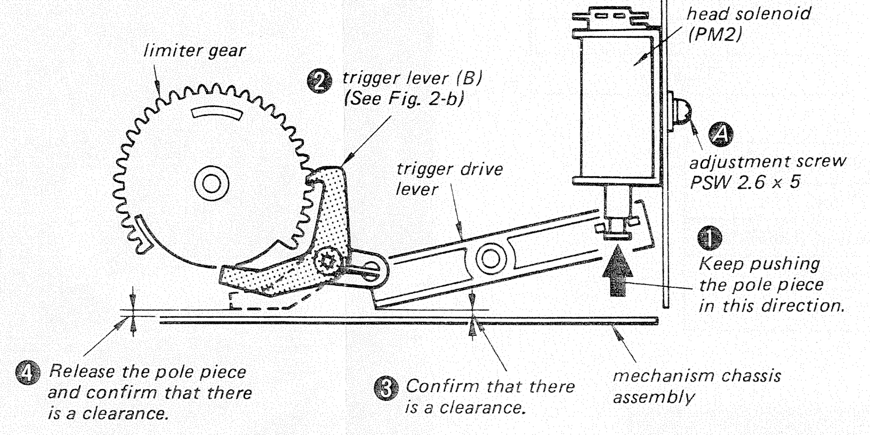
❷ Loosen the adjustment screw Ⓑ and adjust the position of the brake solenoid so that the tip of the trigger lever (A) comes between ⓐ and ⓑ.

Fig. 1-b.



Head Solenoid (PM2) Position Adjustment

– Stop Mode –



limiter gear
head solenoid (PM2)
Ⓐ adjustment screw PSW 2.6 x 5
trigger drive lever
mechanism chassis assembly

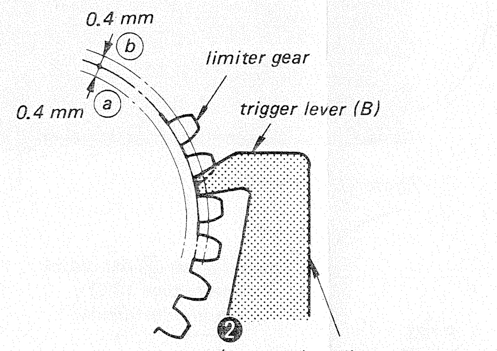
❷ trigger lever (B) (See Fig. 2-b)

❶ Keep pushing the pole piece in this direction.

❹ Release the pole piece and confirm that there is a clearance.

❸ Confirm that there is a clearance.

Fig. 2-a



0.4 mm ⓑ
0.4 mm ⓐ
limiter gear
trigger lever (B)

❷ Loosen the adjustment screw Ⓐ and adjust the position of the head solenoid so that the tip of the trigger lever (B) comes between ⓐ and ⓑ.

Fig. 2-b

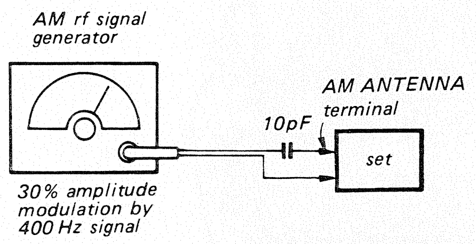
3-2. ELECTRICAL ADJUSTMENTS

• TUNER SECTION

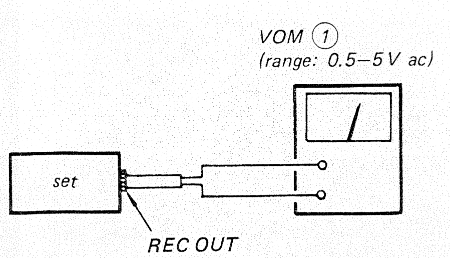
MW/LW SECTION

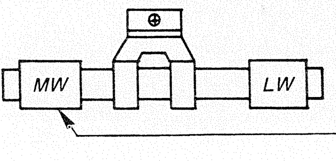
Setting:

Function switch: MW or LW


AM rf signal generator
AM ANTENNA terminal
10pF
set
30% amplitude modulation by 400 Hz signal

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

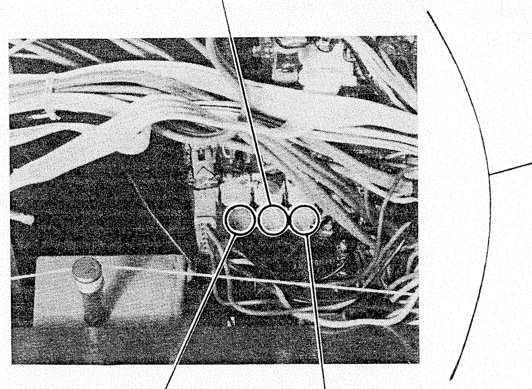

VOM ①
(range: 0.5–5V ac)
set
REC OUT

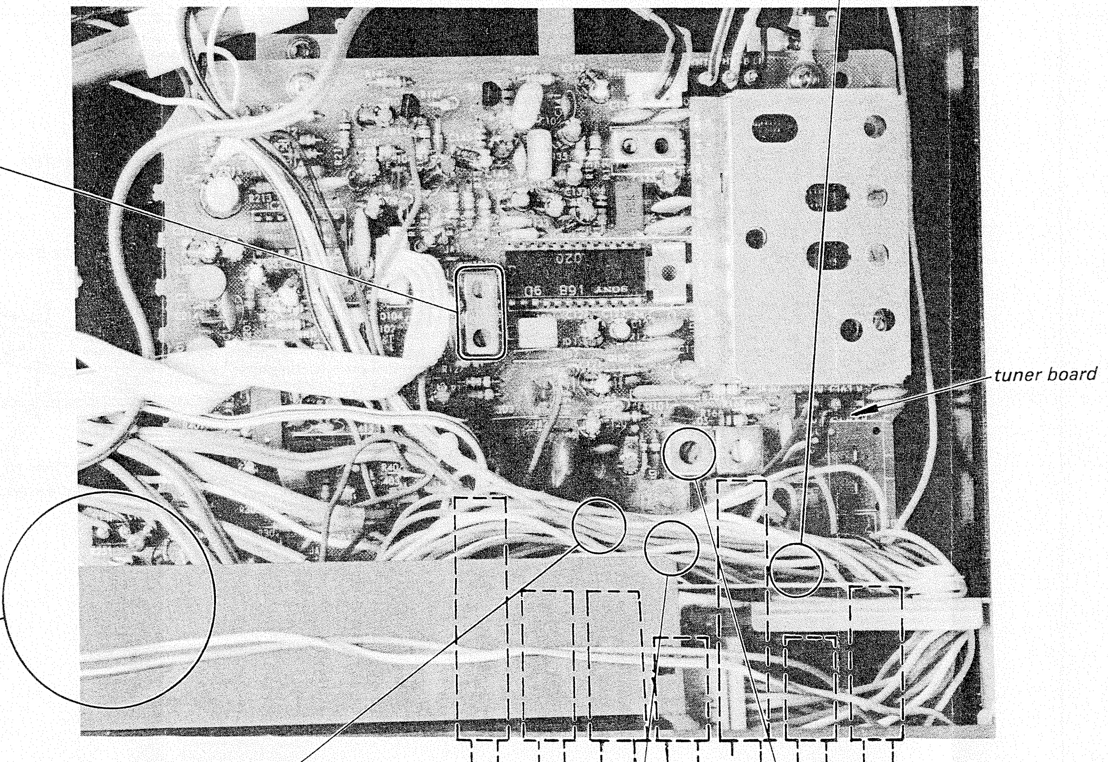


MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
600kHz	1,400kHz
L103	CT102

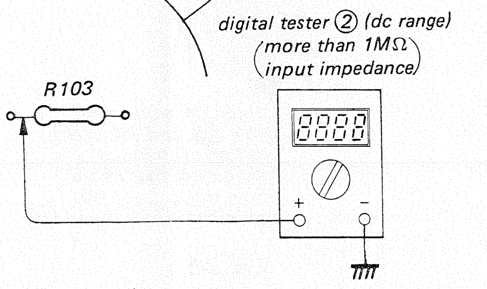
AM IF ALIGNMENT
Adjust for a maximum reading on VOM ①.
450kHz
CFU101

DIAL POINTER SETTING
Tune
Dial Indication: 1,000kHz
1,000kHz
RV253



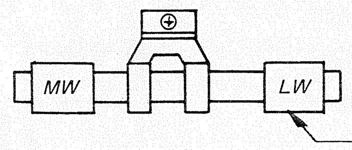

tuner board
MW
LW
FM

(Photo: UK model)


digital tester ② (dc range)
(more than 1MΩ input impedance)
R103
+
–

RV256	RV252
2.00V	25.0V
Dial Indication: fmin	Dial Indication: fmax
Adjust for a specified reading on digital tester ②.	
TUNING CONTROL VOLTAGE ADJUSTMENT	

CT104	L104
1,660kHz	515kHz
Dial Indication: fmax	Dial Indication: fmin
Adjust for a maximum reading on VOM ①.	
MW FREQUENCY COVERAGE ADJUSTMENT	



LW TRACKING ADJUSTMENT 1	
Adjust for a maximum reading on VOM ①.	
LW ANTENNA switch: BUILT-IN position	
170kHz	320kHz
L102	CT101

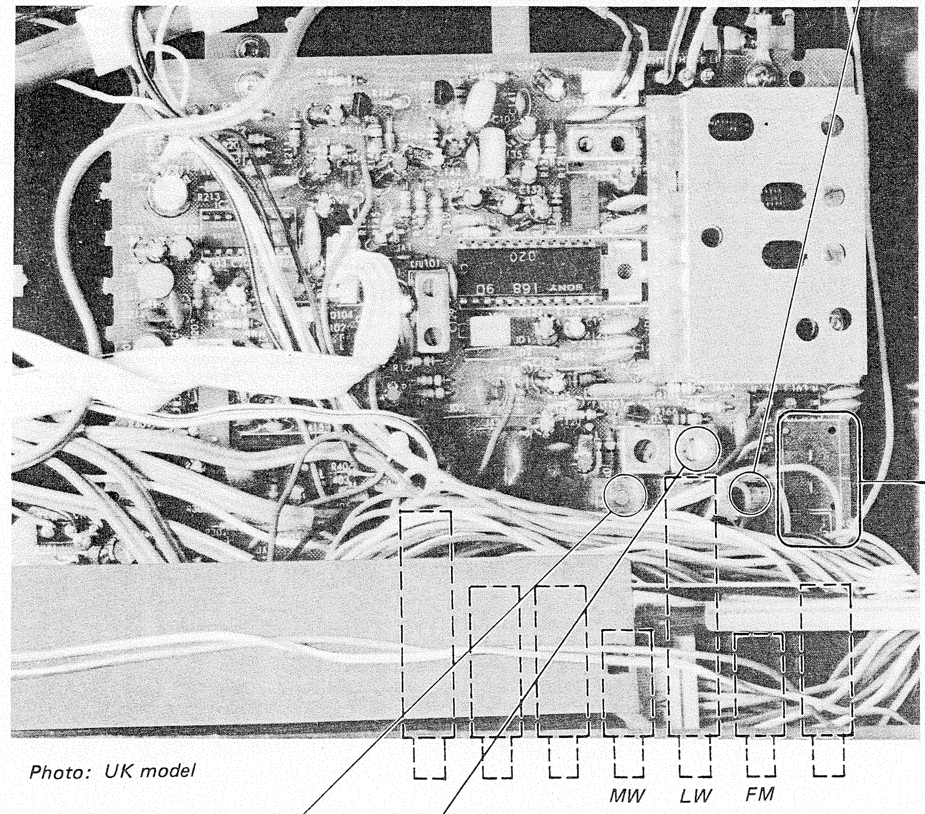
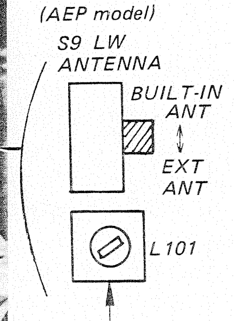


Photo: UK model


(AEP model)
S9 LW ANTENNA
BUILT-IN ANT
EXT ANT
L101

CT103	L105
365kHz	145kHz
Dial Indication: fmax	Dial Indication: fmin
Adjust for a maximum reading on VOM ①.	
LW FREQUENCY COVERAGE ADJUSTMENT	

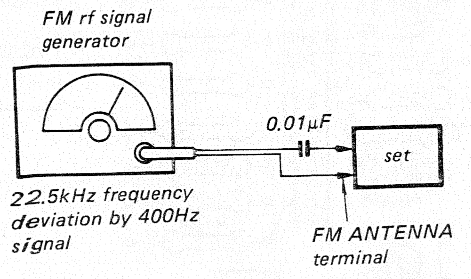
L101
170kHz
LW ANTENNA switch: EXT position
Adjust for a maximum reading on VOM ①.
LW TRACKING ADJUSTMENT 2

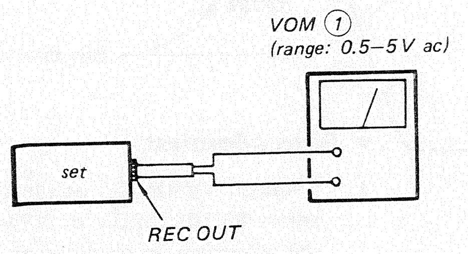
(AEP model)

FM SECTION

Setting:

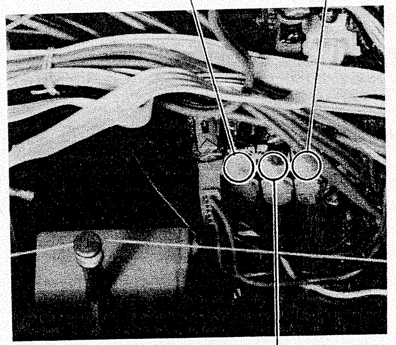
Function switch: FM


FM rf signal generator
0.01μF
set
22.5kHz frequency deviation by 400Hz signal
FM ANTENNA terminal


VOM ①
(range: 0.5–5 V ac)
set
REC OUT

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
Set RV255 to mechanical-mid position	
Dial Indication: fmin	Dial Indication: fmax
87.1MHz (87.5MHz)	108.5MHz (108MHz)
RV254	RV251

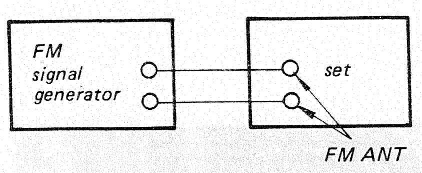
( ): in West Germany



RV255
98MHz
Dial Indication: 98MHz
Tune
DIAL POINTER SETTING

VCO Adjustment

A) With Frequency Counter

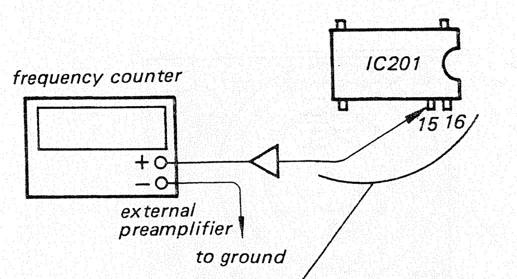

FM signal generator
set
FM ANT

FM Signal Generator Setting:

Carrier frequency: 98 MHz
Modulation: no modulation
Output level: 1 mV (60 dB)

Procedure:

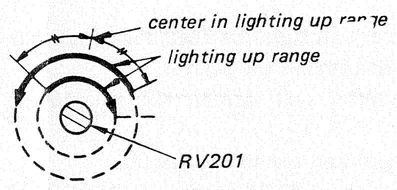
1. Tune the set to 98 MHz.
2. Adjust RV201 for 76 kHz ± 50 Hz on the counter.

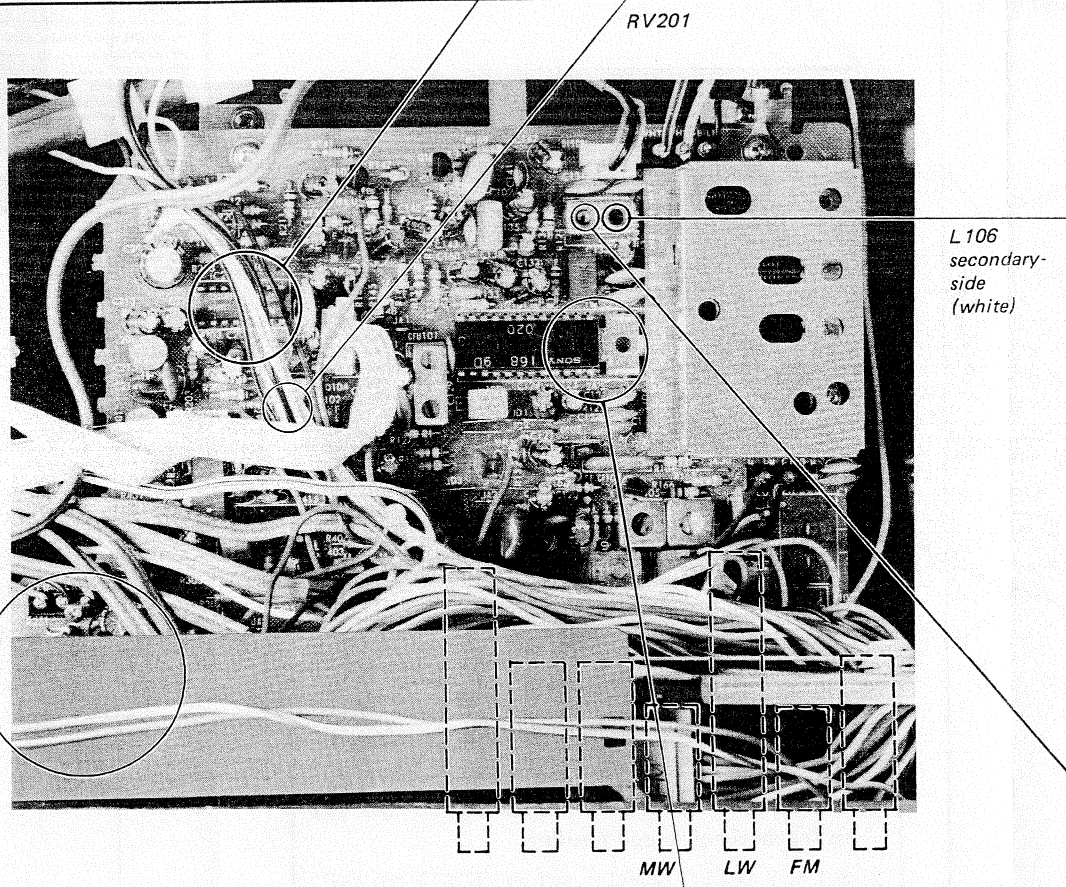

frequency counter
IC201
15 16
+
–
external preamplifier
to ground

B) Without Frequency Counter

Procedure:

1. Tune the set to FM stereo signals.
2. Turn RV201 clockwise or counterclockwise and secure RV201 at the center in lighting-up range of stereo lamp as shown below.

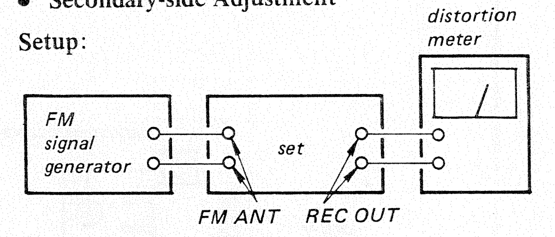

center in lighting up range
lighting up range
RV201


RV201
L106 secondary-side (white)
L106 primary-side (yellow)
MW
LW
FM

Discriminator Adjustment

- **Secondary-side Adjustment**

Setup:

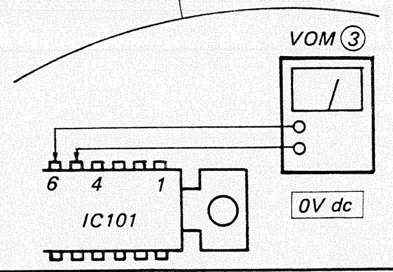

distortion meter
FM signal generator
set
FM ANT
REC OUT

FM Signal Generator Setting:

Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Modulation: 400 Hz, 75 kHz deviation (100%)

Procedure:

1. Tune the set to 98 MHz.
2. Adjust the secondary-side core (white) of L106 for a minimum reading on the distortion meter.


VOM ③
6
4
1
IC101
0V dc

- **Primary-side Adjustment**

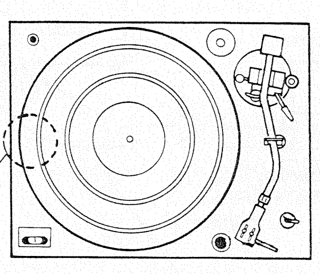
Procedure:

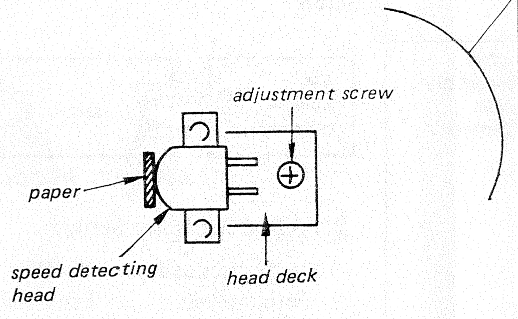
1. Detune the set.
2. Adjust the primary-side core (yellow) of L106 so that the voltage between terminals ④ and ⑥ of IC101 reads 0V.

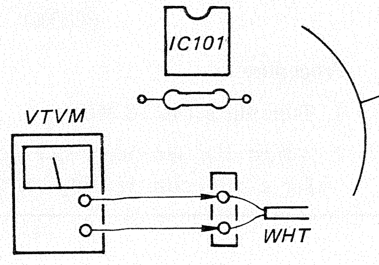
● RECORD PLAYER SECTION

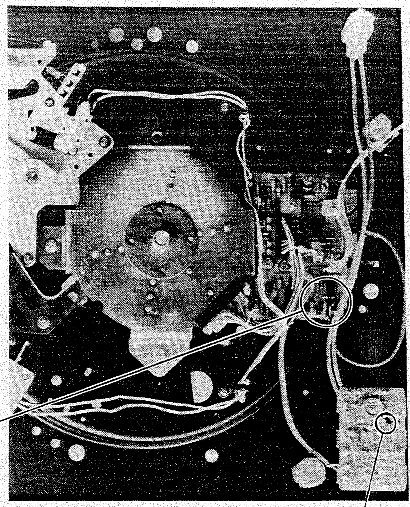
Speed Detecting Head Position Adjustment

1. Remove the platter.
2. Loosen the adjustment screw.
3. Slide the head deck backwards.
4. Fix a sheet of paper (0.3mm thick) to the head tip.
5. Install the platter and slide the head deck forwards so that the paper touches the platter.
6. Remove the platter and tighten the adjustment screw.
7. Remove the paper and install the platter.
8. Make sure that the VTVM reading is 10–50mV ac at "33" rpm.
9. If necessary, adjust the position of the head deck.




adjustment screw
paper
speed detecting head
head deck


IC101
VTVM
WHT



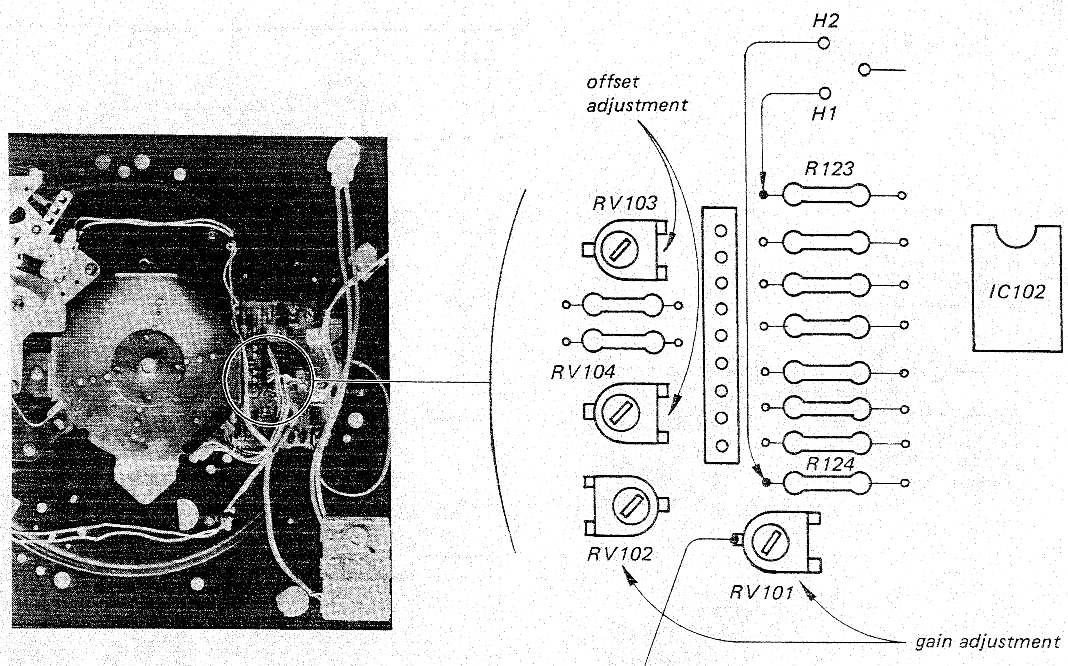
Turntable Speed Adjustment

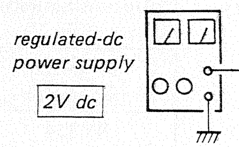
If correct speed cannot be obtained by adjusting the PITCH controls, adjust RV201.

1. Set the two PITCH control knobs (33 and 45) to the mechanical-mid position.
2. Set the SPEED selector switch (S201) to "33" position and adjust RV201 so that the stroboscope pattern appears stationary.

Gain/Offset Adjustment

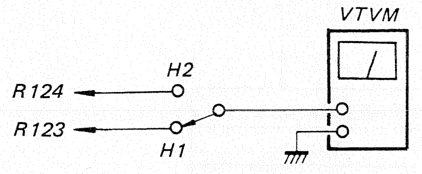
- Connect the regulated power supply as shown below.


H2
H1
offset adjustment
RV103
RV104
RV102
RV101
R123
R124
IC102
gain adjustment


regulated-dc power supply
2V dc

- **Gain Adjustment**

1. Connect VTVM to H1 and adjust RV101 for 2V ac reading on VTVM.
2. Connect VTVM to H2 and adjust RV102 for 2V ac reading on VTVM.

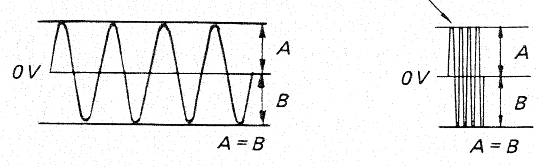

VTVM
R124
R123
H2
H1

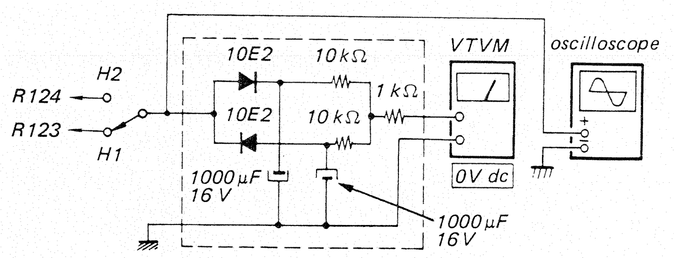
- **Offset Adjustment**

1. Connect VTVM or oscilloscope to H1 and adjust RV103 for 0V dc VTVM reading or for the waveform on oscilloscope as shown below.
2. Connect VTVM or oscilloscope to H2 and adjust RV104 for 0V dc VTVM reading or for the waveform on oscilloscope as shown below.

Waveform on Oscilloscope:

Note: Set the sweep time longer for easy waveform checking.


0V
A
B
A = B
0V
A
B
A = B


H2
R124
R123
H1
10E2
10E2
10kΩ
10kΩ
1kΩ
1000μF 16V
1000μF 16V
VTVM
0V dc
oscilloscope

● CASSETTE RECORDER SECTION

3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

- Set the BIAS and EQ switches according to the tape as follows.

Tape	BIAS switch	EQ switch
CS-10	MED	TYPE I
CS-20	HIGH	TYPE II
CS-30	MED	TYPE III
CS-40	METAL	TYPE IV

- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR. . . . . .OFF
EQ . . . . .TYPE
BIAS. . . . . .MED
TIMER REC . . . . .OFF
REC MUTE. . . . . .OFF

- Standard Record:

Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

Standard Input Level

	MIC	AUX IN
source impedance	600Ω	600Ω
input level	0.77mV (−60dB)	25mV (−30dB)

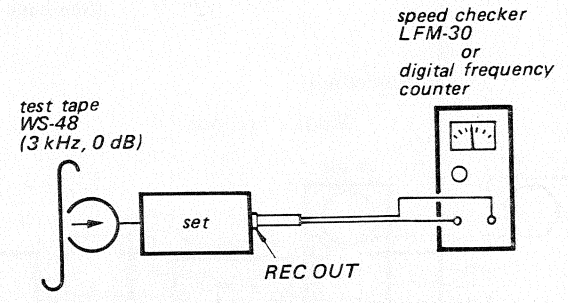
Standard Output Level

	REC OUT
load impedance	47kΩ
output level	0.14V (−15dB)

Tape Speed Adjustment

Procedure:

Mode: playback



speed checker
LFM-30
or
digital frequency
counter
test tape
WS-48
(3 kHz, 0 dB)
set
REC OUT

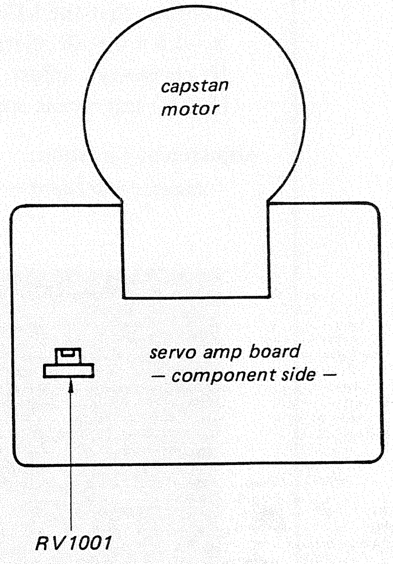
Specification:

Speed checker	Digital frequency counter
−0.7 to +0.7%	2,980 to 3,020Hz

Frequency difference between the beginning and the end of the tape should be within 0.7% (20 Hz).

Adjustment Location:

– servo amp board –



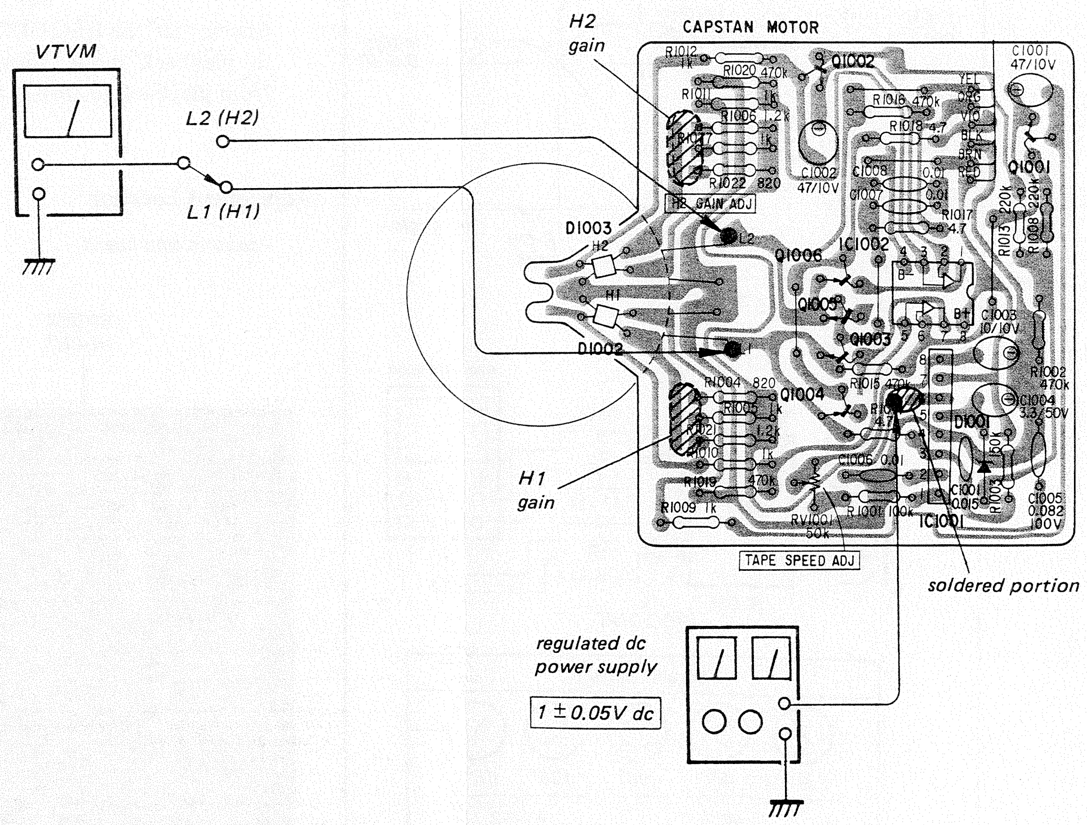
capstan
motor
servo amp board
– component side –
RV1001

Capstan Motor Gain Adjustment

Procedure:

Mode: playback

1. Unsolder the soldered portion as shown below and connect the regulated power supply.
2. Connect VTVM to L1 or L2 and adjust.
3. Change the pattern connection and adjust for 2.83 ± 0.25V ac on the VTVM.
4. Solder the portion which has been unsoldered in step 1.

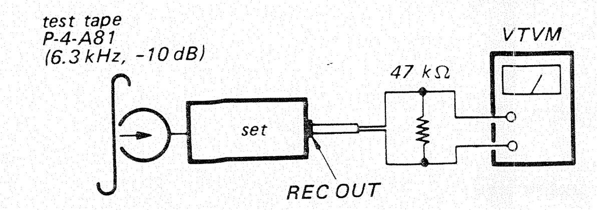


VTVM
L2 (H2)
L1 (H1)
H2
gain
CAPSTAN MOTOR
H2 GAIN ADJ
D1003
D1002
H1
gain
TAPE SPEED ADJ
soldered portion
regulated dc
power supply
1 ± 0.05V dc
R1012 1k
R1020 470k
Q1002
C1001 47/10V
R1011 1k
R1006 1.2k
R1007 1k
R1022 820
R1016 470k
R1018 4.7
YEL
ORG
VIO
BLK
BRN
RED
C1002 47/10V
C1008 0.01
C1007 0.01
R1017 4.7
Q1001
R1013 220k
R1008 220k
IC1002
Q1006
Q1005
Q1003
C1003 10/10V
R1002 470k
R1004 820
R1005 1k
R1021 1.2k
R1010 1k
R1019 470k
R1009 1k
Q1004
R1015 470k
C1004 3.3/50V
D1001
C1006 0.01
R1001 100k
RV1001 50k
IC1001
C1001 0.015
R1003 150k
C1005 0.082 100V

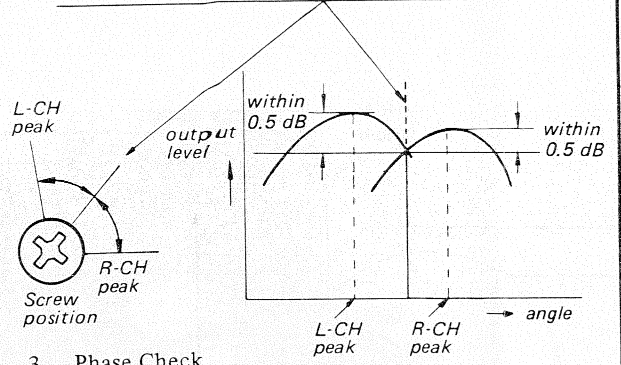
Record/playback Head Azimuth Adjustment

Procedure:

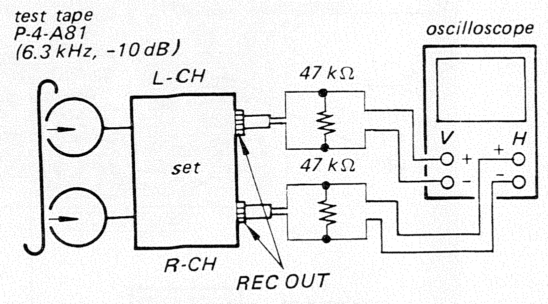
1. Mode: playback

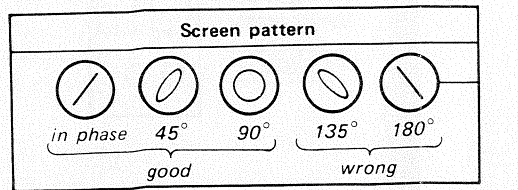

test tape
P-4-A81
(6.3 kHz, -10 dB)
VTVM
47 kΩ
set
REC OUT

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw where both of output levels match together within 0.5 dB.

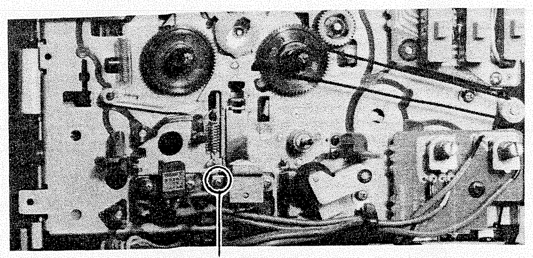

L-CH
peak
R-CH
peak
Screw
position
output
level
within
0.5 dB
within
0.5 dB
L-CH
peak
R-CH
peak
→ angle

3. Phase Check
Mode: playback


test tape
P-4-A81
(6.3 kHz, -10 dB)
L-CH
47 kΩ
oscilloscope
V
H
set
47 kΩ
R-CH
REC OUT


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

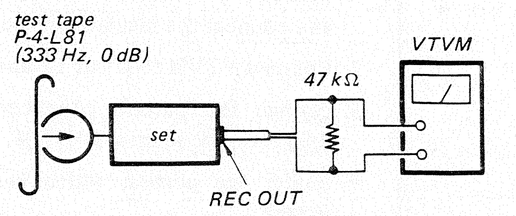
Adjustment Location:


adjustment screw

Playback Level Adjustment

Procedure:

Mode: playback


test tape
P-4-L81
(333 Hz, 0 dB)
VTVM
47 kΩ
set
REC OUT

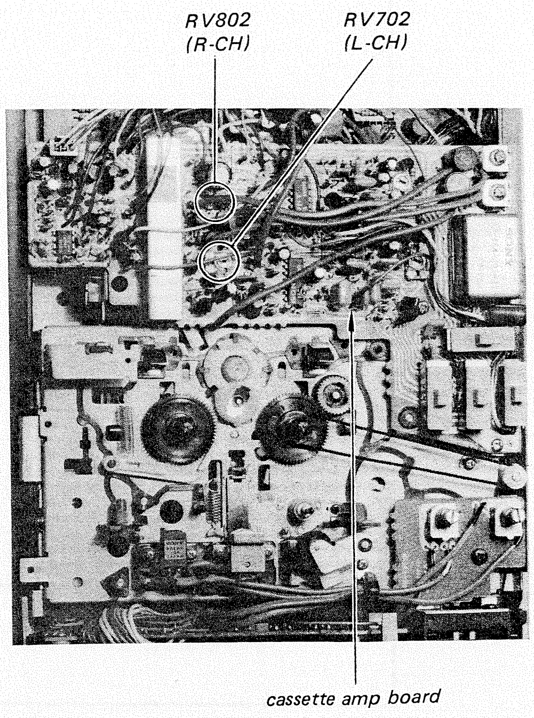
Specification:

REC OUT level: 0.52 – 0.59 V
(−3.5 to −2.5 dB)
Level difference between channels:
less than 0.5 dB

Check that the REC OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:

– cassette amp board –


RV802
(R-CH)
RV702
(L-CH)
cassette amp board

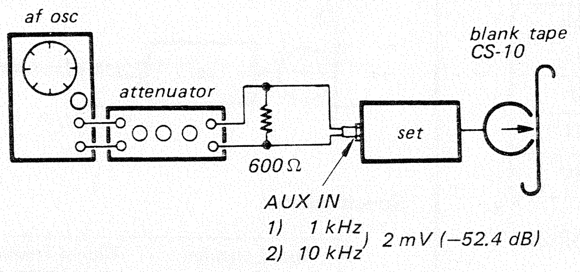
Record Bias Adjustment

Setting:

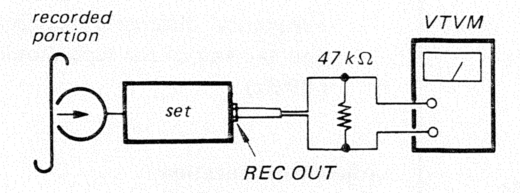
REC LEVEL control: standard record
(See page 31.)

Procedure:

1. Mode: record


af osc
attenuator
600 Ω
set
blank tape
CS-10
AUX IN
1) 1 kHz
2) 10 kHz
2 mV (−52.4 dB)

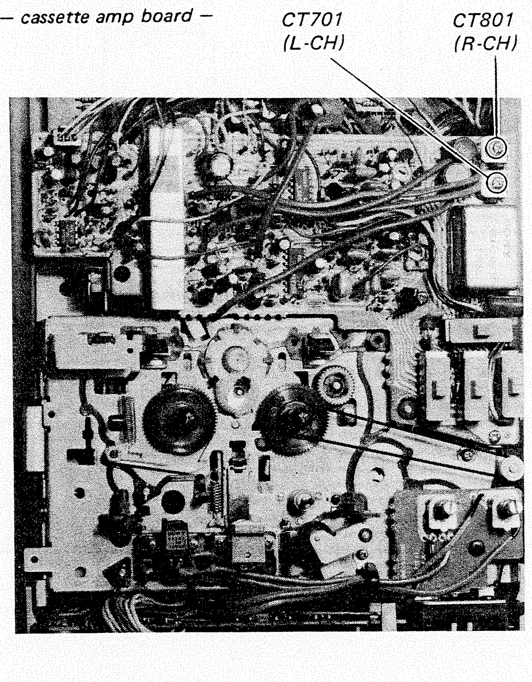
2. Mode: playback


recorded
portion
VTVM
47 kΩ
set
REC OUT

Confirm that the LINE OUT level of 10 kHz signal is −0.5 ± 0.5 dB relative to that of 1 kHz.
If necessary, adjust CT701 (L-CH) and CT801 (R-CH) and repeat steps 1 and 2.

Adjustment Location:

– cassette amp board –


CT701
(L-CH)
CT801
(R-CH)

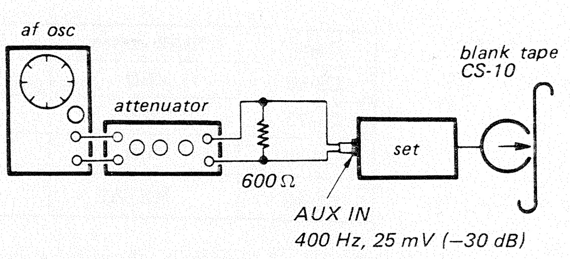
Record Level Adjustment

Setting:

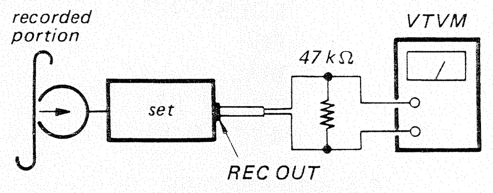
DOLBY switch: OFF
REC LEVEL control: standard record
(See page 31.)

Procedure:

1. Mode: record


af osc
attenuator
600 Ω
set
blank tape
CS-10
AUX IN
400 Hz, 25 mV (−30 dB)

2. Mode: playback

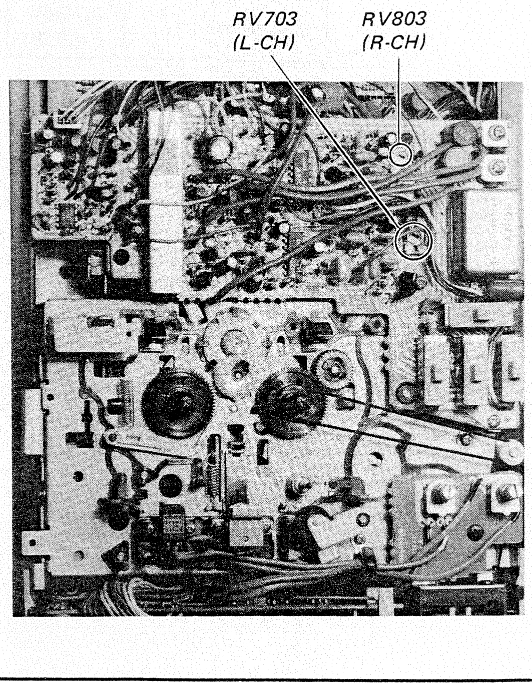

recorded
portion
VTVM
47 kΩ
set
REC OUT

Specification:

REC OUT level: 0.14V (−15dB)

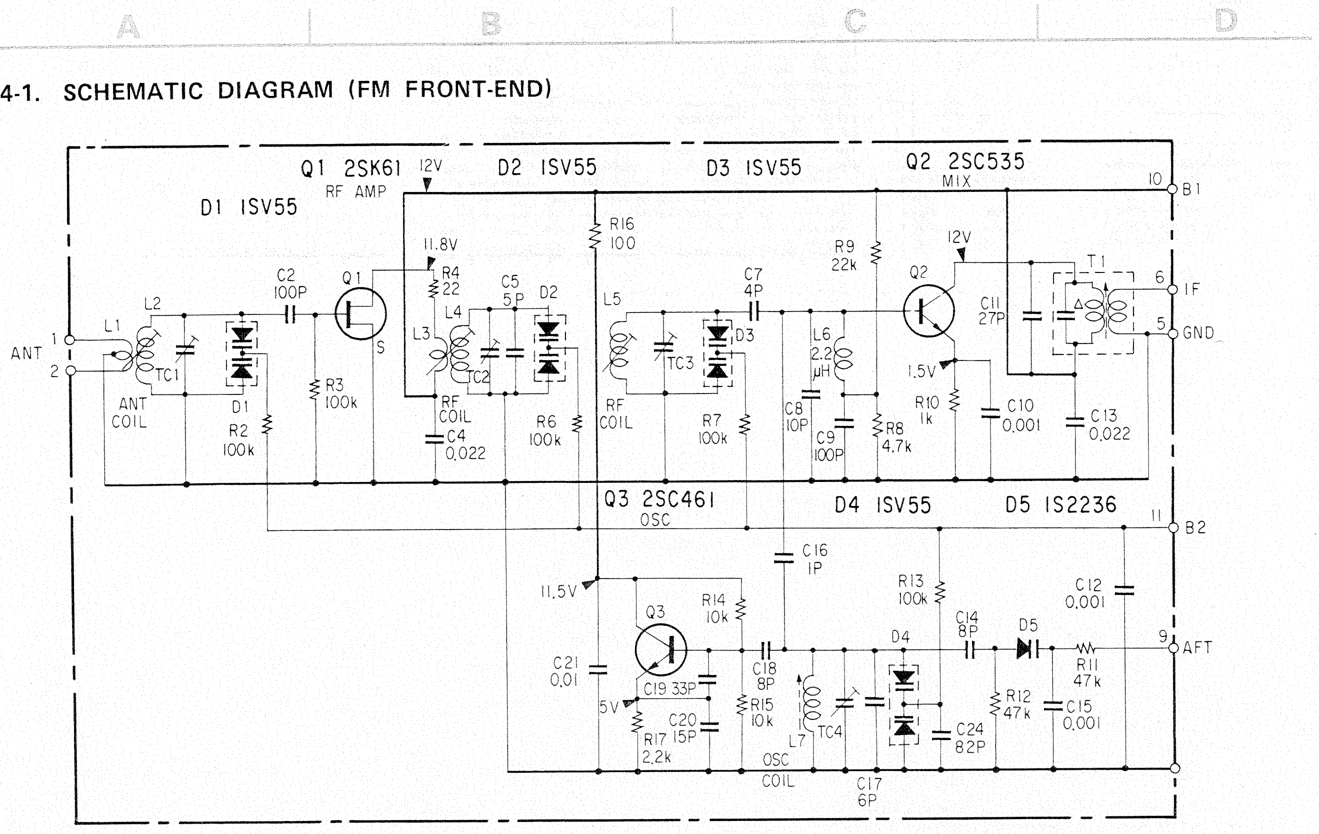
Adjustment Location:

– cassette amp board –


RV703
(L-CH)
RV803
(R-CH)

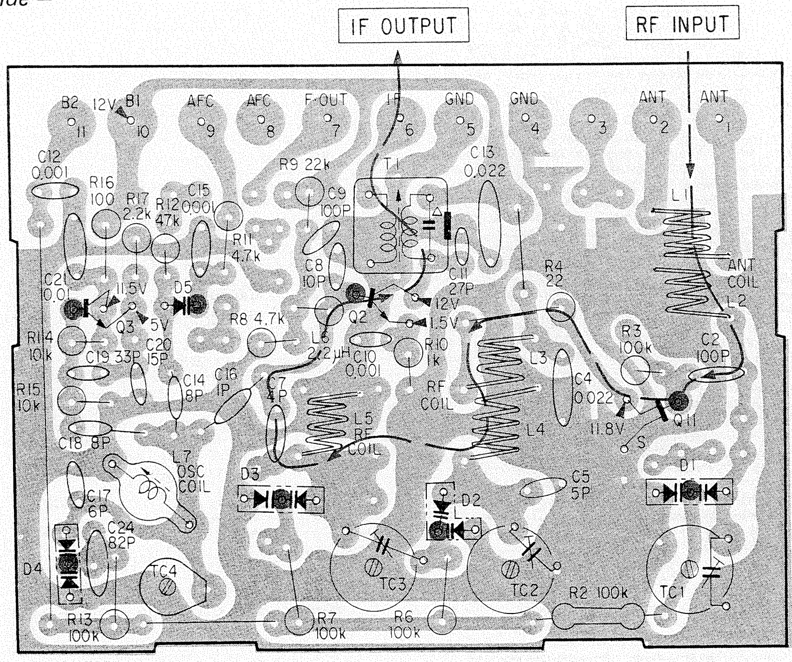
SECTION 4
DIAGRAMS

4-1. SCHEMATIC DIAGRAM (FM FRONT-END)


A
B
C
D
Q1 2SK61
RF AMP
D1 ISV55
D2 ISV55
D3 ISV55
Q2 2SC535
MIX
Q3 2SC461
OSC
D4 ISV55
D5 IS2236
ANT
ANT COIL
L1
L2
TC1
C2 100P
R2 100k
R3 100k
11.8V
R4 22
C5 5P
L3
L4
TC2
RF COIL
C4 0.022
R6 100k
R16 100
L5
C7 4P
TC3
R7 100k
R9 22k
12V
L6 2.2μH
C8 10P
C9 100P
R8 4.7k
R10 1k
1.5V
C11 27P
T1
C10 0.001
C13 0.022
10 B1
6 IF
5 GND
11 B2
9 AFT
C16 1P
11.5V
R14 10k
C21 0.01
C19 33P
5V
C20 15P
R17 2.2k
C18 8P
R15 10k
L7
TC4
OSC COIL
C17 6P
R13 100k
C14 8P
R12 47k
C24 82P
R11 47k
C12 0.001
C15 0.001

4-2. MOUNTING DIAGRAM (FM FRONT-END)

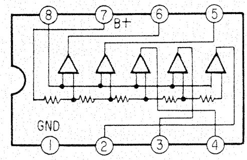
– Component Side –


IF OUTPUT
RF INPUT
B2
12V
B1
AFC
AFC
F-OUT
IF
GND
GND
ANT
ANT
11
10
9
8
7
6
5
4
3
2
1
C12 0.001
R16 100
R17 2.2k
R12 47k
C15 0.001
R9 22k
C9 100P
T1
C13 0.022
R11 4.7k
C8 10P
C11 27P
R4 22
L1
ANT COIL L2
C21 0.01
11.5V
D5
Q3
5V
R8 4.7k
L6 2.2μH
Q2
12V
1.5V
R10 1k
C10 0.001
R3 100k
C2 100P
R14 10k
C19 33P
C20 15P
C14 8P
C16 1P
L5 RF COIL
RF COIL
L3
L4
C4 0.022
11.8V
S
Q1
R15 10k
C18 8P
L7 OSC COIL
C17 6P
C24 82P
D3
D2
C5 5P
D1
D4
TC4
TC3
TC2
TC1
R2 100k
R13 100k
R7 100k
R6 100k

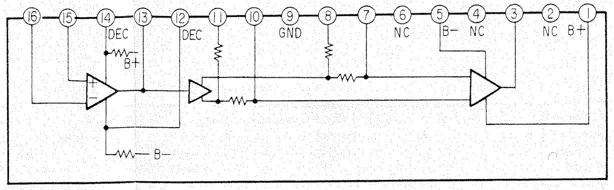
D	4	5	3	2	1
Q	3		2		11

4-3. BLOCK DIAGRAM OF ICs

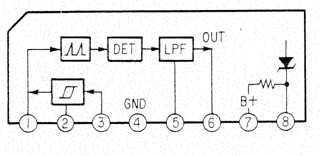
IC102 TL489C



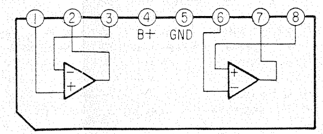
IC501, 601 SI1340H


DEC
B+
DEC
GND
NC
B−
NC
NC B+
B−

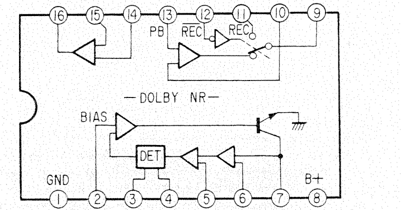
IC1001 CX069


DET
LPF
OUT
GND
B+

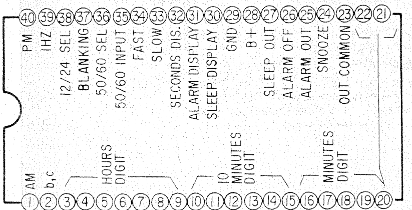
IC301 BA328



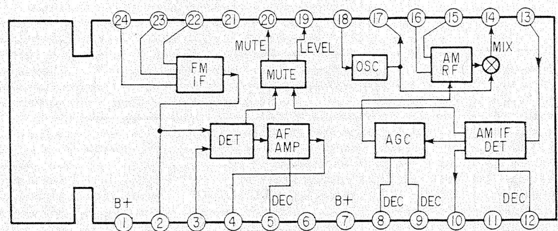
IC701, 801 CX174


PB
REC
REC
– DOLBY NR –
BIAS
DET
GND
B+

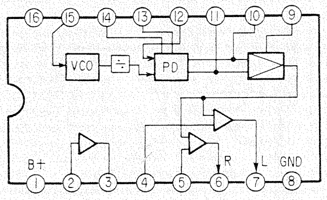
IC951 TMS1943N2L


PM
1HZ
12/24 SEL
BLANKING
50/60 SEL
50/60 INPUT
FAST
SLOW
SECONDS DIS.
ALARM DISPLAY
SLEEP DISPLAY
GND
B+
SLEEP OUT
ALARM OFF
ALARM OUT
SNOOZE
OUT COMMON
AM
b, c
HOURS DIGIT
10 MINUTES DIGIT
MINUTES DIGIT

IC101 CX168


MUTE
LEVEL
MIX
FM IF
MUTE
OSC
AM RF
DET
AF AMP
AGC
AM IF DET
B+
DEC
B+
DEC
DEC
DEC

IC201 μPC1161C

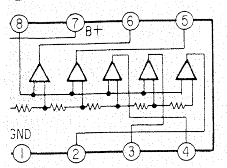

VCO
PD
B+
R
L
GND

Note:

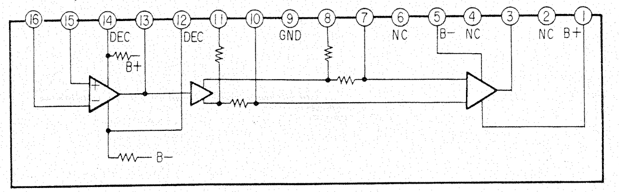
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalum.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ➡ : signal path

CK DIAGRAM OF ICs

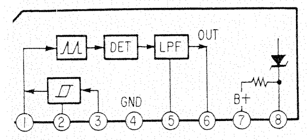
2 TL489C



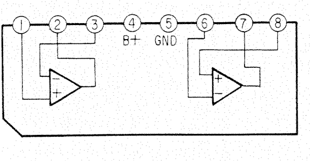
IC501,601 SI1340H


DEC
DEC
GND
NC
B−
NC
NC B+
B+
B−

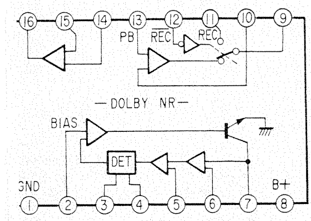
IC1001 CX069


DET
LPF
OUT
GND
B+

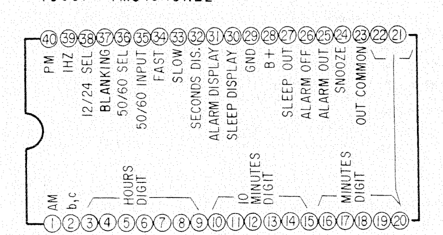
IC301 BA328



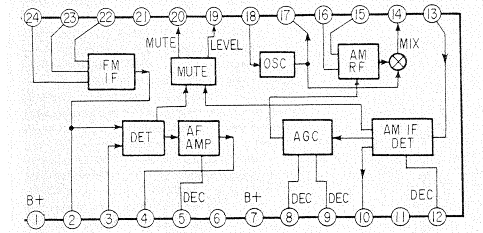
01,801 CX174


PB
REC
REC
DOLBY NR
BIAS
DET
GND
B+

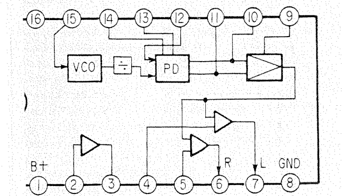
IC951 TMS1943N2L


PM
1HZ
12/24 SEL
BLANKING
50/60 SEL
50/60 INPUT
FAST
SLOW
SECONDS DISP
ALARM DISPLAY
SLEEP DISPLAY
GND
B+
SLEEP OUT
ALARM OUT
SNOOZE
OUT COMMON
AM
b,c
HOURS DIGIT
10 MINUTES DIGIT
MINUTES DIGIT

X168


MUTE
LEVEL
MIX
FM IF
MUTE
OSC
AM RF
DET
AF AMP
AGC
AM IF DET
DEC
B+
DEC
DEC
DEC
B+

201 μPC1161C


VCO
PD
R
B+
GND

pF : μμF

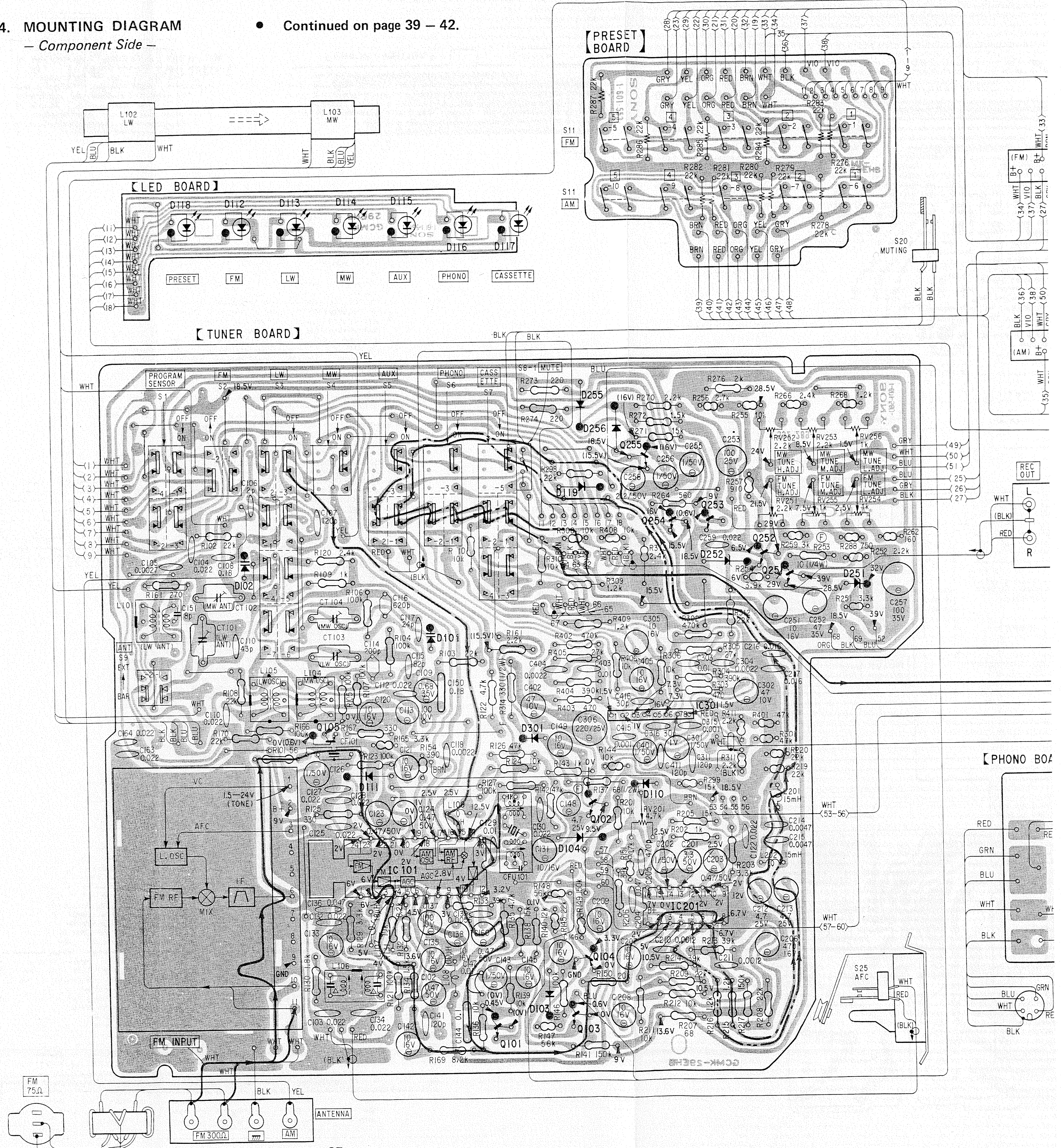
ctrolytics

se noted.

4-4. MOUNTING DIAGRAM

– Component Side –

● Continued on page 39 – 42.

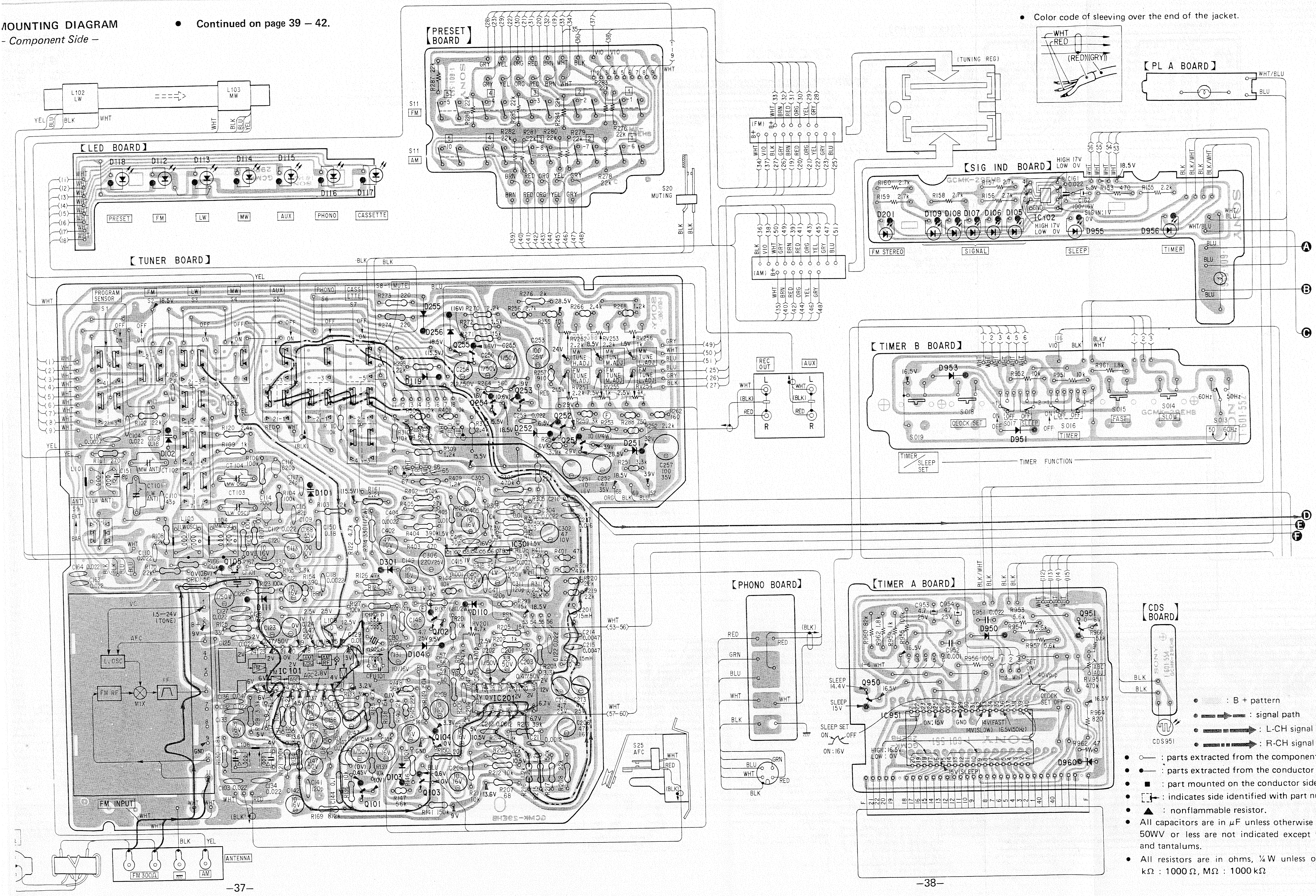

A
B
C
D
E
1
2
3
4
5
PRESET BOARD
L102 LW
L103 MW
LED BOARD
D118
D112
D113
D114
D115
D116
D117
PRESET
FM
LW
MW
AUX
PHONO
CASSETTE
TUNER BOARD
PROGRAM SENSOR
S1
S2
S3
S4
S5
S6
S7
S8-1 MUTE
S9
S11 FM
S11 AM
S20 MUTING
S25 AFC
IC101
IC201
IC301
MW TUNE H.ADJ
MW TUNE M.ADJ
MW TUNE L.ADJ
FM TUNE H.ADJ
FM TUNE M.ADJ
FM TUNE L.ADJ
REC OUT
L
R
PHONO BOA
FM INPUT
ANTENNA
FM 75Ω
FM 300Ω
AM
WHT
BLK
YEL
BLU
RED
GRN
GRY
ORG
BRN

MOUNTING DIAGRAM

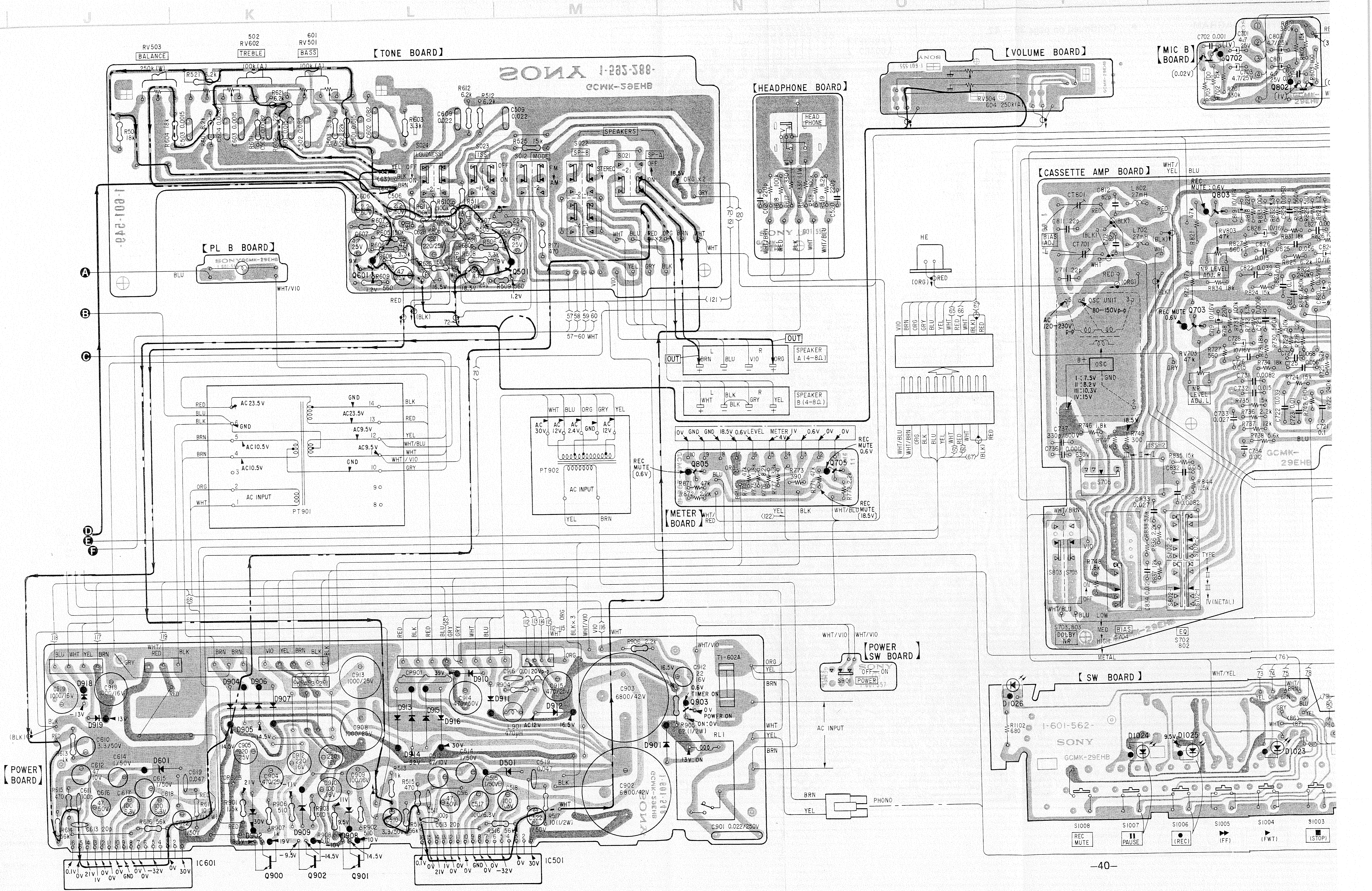
– Component Side –

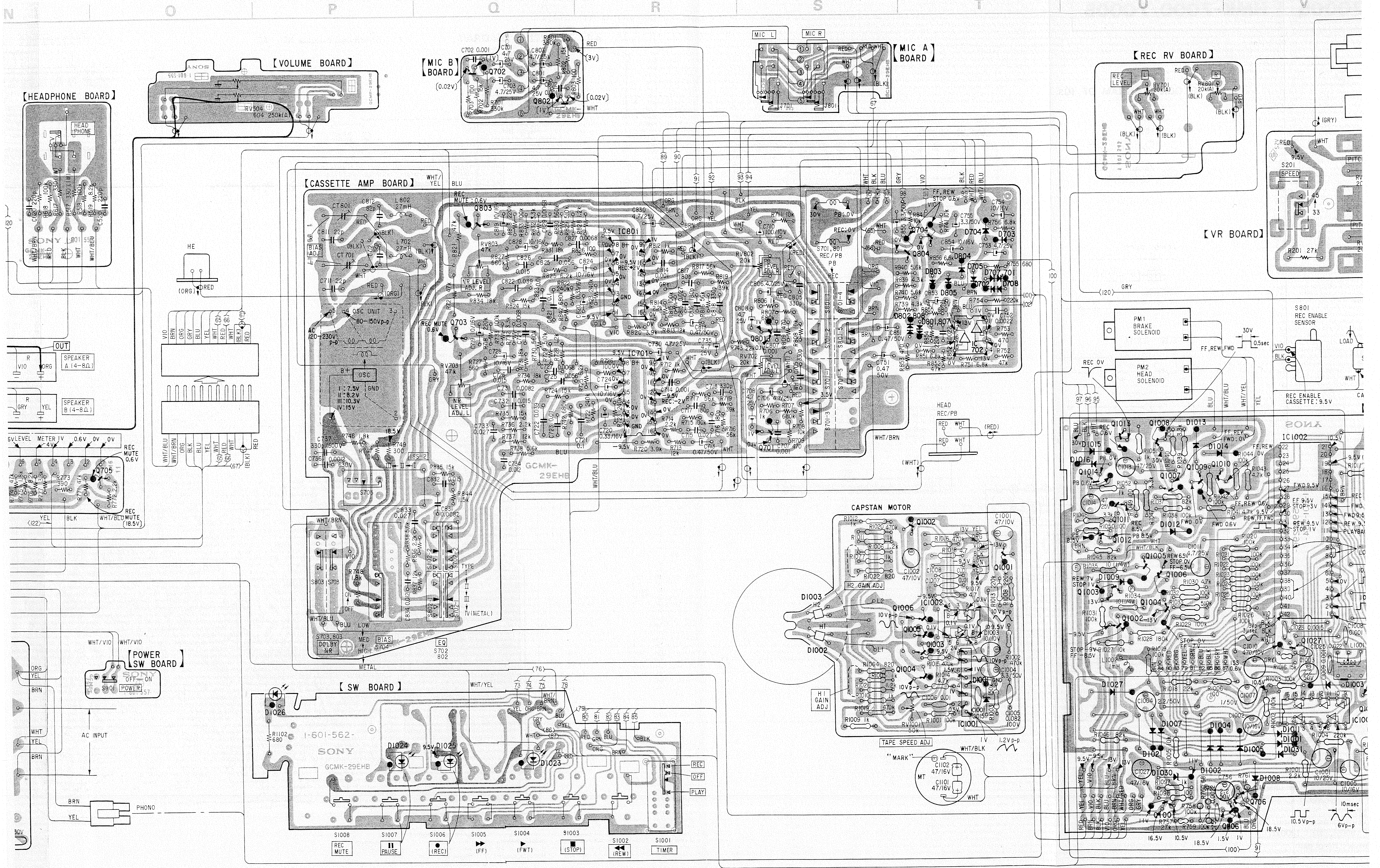
• Continued on page 39 – 42.

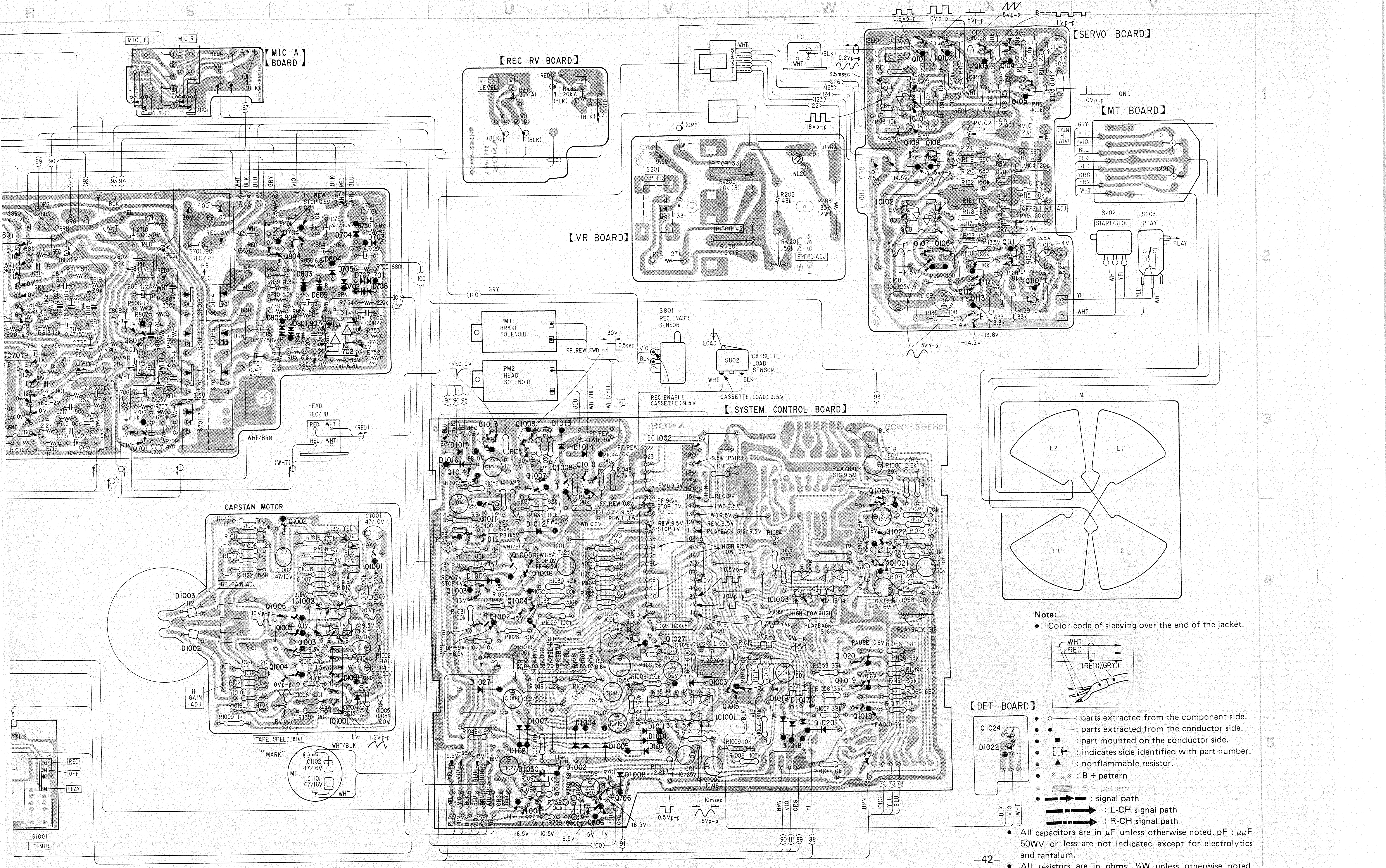
• Color code of sleeving over the end of the jacket.


A
B
C
D
E
F
G
H
WHT
RED
(RED)(GRY)
L102 LW
L103 MW
[PRESET BOARD]
[LED BOARD]
D118
D112
D113
D114
D115
D116
D117
PRESET
FM
LW
MW
AUX
PHONO
CASSETTE
[TUNER BOARD]
PROGRAM SENSOR
S11 FM
S11 AM
S20 MUTING
(TUNING REG)
[PL A BOARD]
WHT/BLU
[SIG IND BOARD]
HIGH 17V LOW 0V
IC102
D201
D109
D108
D107
D106
D105
D955
D956
FM STEREO
SIGNAL
SLEEP
TIMER
A
B
C
[TIMER B BOARD]
D953
D951
S018
S019
S014
S015
S016
S013
CLOCK SET
FAST
SLOW
TIMER
60Hz
50Hz
TIMER/SLEEP SET
TIMER FUNCTION
REC OUT
AUX
L
R
D
E
F
IC101
IC201
IC301
Q101
Q102
Q103
Q104
Q105
Q251
Q252
Q253
Q254
Q255
D251
D252
D255
D256
D301
D101
D102
D103
D104
D110
D111
D119
VC
AFC
L. OSC
FM RF
MIX
IF
1.5–24V (TONE)
FM INPUT
ANTENNA
FM 300Ω
AM
S25 AFC
[PHONO BOARD]
[TIMER A BOARD]
IC951
Q950
Q951
D950
D960
SLEEP 14.4V
SLEEP 15V
SLEEP SET ON OFF
ON : 16V
[CDS BOARD]
CDS951
GCMK-29EHB

- ▨ : B + pattern
- ━━▶ : signal path
- ━ ━ ▶ : L-CH signal path
- ━ ■ ■ ▶ : R-CH signal path
- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- [ ]← : indicates side identified with part number.
- ▲ : nonflammable resistor.
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ


【TONE BOARD】
RV503 BALANCE 250k (W)
502 RV602 TREBLE 100k (A)
601 RV501 BASS 100k (A)
SONY 1-232-288-
GCMK-29EHB
S024 LOUDNESS
S023 ISS
S012 MODE
S022 SP-B
S021 SP-A
SPEAKERS
Q601
Q501
【PL B BOARD】
【HEADPHONE BOARD】
HEAD PHONE
【VOLUME BOARD】
RV504 604 250k (A)
【MIC B BOARD】
Q702
Q802
【CASSETTE AMP BOARD】
Q803
Q703
OSC UNIT
80–150Vp-p
OSC
REC MUTE
NR LEVEL ADJ. R
NR LEVEL ADJ. L
BIAS ADJ
S703, 803 DOLBY NR
S704 BIAS
S702 802 EQ
TYPE I II III IV (METAL)
SPEAKER A (4–8Ω)
SPEAKER B (4–8Ω)
OUT
【METER BOARD】
Q805
Q705
PT901
AC INPUT
PT902
AC 23.5V
AC10.5V
AC9.5V
【POWER SW BOARD】
S901 POWER OFF ON
【POWER BOARD】
IC601
IC501
Q900
Q902
Q901
Q903
RL1
T1-602A
TIMER ON
POWER ON
AC INPUT
PHONO
C903 6800/42V
C902 6800/42V
【SW BOARD】
1-601-562-
SONY
GCMK-29EHB
D1026
D1024
D1025
D1023
S1008 REC MUTE
S1007 PAUSE
S1006 (REC)
S1005 (FF)
S1004 (FWT)
S1003 (STOP)
A
B
C
D
E
F
J
K
L
M
N
O


N
O
P
Q
R
S
T
U
V
【HEADPHONE BOARD】
【VOLUME BOARD】
【MIC B BOARD】
【MIC A BOARD】
MIC L
MIC R
【REC RV BOARD】
【VR BOARD】
【CASSETTE AMP BOARD】
GCMK-29EHB
OSC UNIT
SPEAKER A (4-8Ω)
SPEAKER B (4-8Ω)
OUT
HEAD REC/PB
PM1 BRAKE SOLENOID
PM2 HEAD SOLENOID
S801 REC ENABLE SENSOR
REC ENABLE CASSETTE: 9.5V
CAPSTAN MOTOR
H2 GAIN ADJ
H1 GAIN ADJ
TAPE SPEED ADJ
【POWER SW BOARD】
AC INPUT
PHONO
【SW BOARD】
1-601-562-
SONY
S1008 REC MUTE
S1007 PAUSE
S1006 (REC)
S1005 (FF)
S1004 (FWT)
S1003 (STOP)
S1002 (REW)
S1001 TIMER
REC
OFF
PLAY
S703,803 DOLBY NR
BIAS S704
EQ S702 802


R
S
T
U
V
W
X
Y
1
2
3
4
5
MIC L
MIC R
【MIC A BOARD】
J701
J801
【REC RV BOARD】
REC LEVEL
RV701 20k(A)
RV801 20k(A)
【VR BOARD】
S201 SPEED
PITCH 33
PITCH 45
RV202 20k (B)
RV203 20k (B)
RV201 50k
SPEED ADJ
NL201
R202 43k
R203 33k (2W)
R201 27k
FG
【SERVO BOARD】
GAIN H1 ADJ
GAIN H2 ADJ
OFFSET H2 ADJ
OFFSET H1 ADJ
IC101
IC102
Q101
Q102
Q103
Q104
Q105
Q106
Q107
Q108
Q109
Q110
Q111
Q112
Q113
【MT BOARD】
H101
H201
S202 START/STOP
S203 PLAY
MT
L1
L2
PM1 BRAKE SOLENOID
PM2 HEAD SOLENOID
S801 REC ENABLE SENSOR
REC ENABLE CASSETTE: 9.5V
S802 CASSETTE LOAD SENSOR
CASSETTE LOAD: 9.5V
HEAD REC/PB
S701, 801 REC/PB
【SYSTEM CONTROL BOARD】
IC1002
IC1003
IC1001
PLAYBACK SIG
CAPSTAN MOTOR
H2 GAIN ADJ
H1 GAIN ADJ
TAPE SPEED ADJ
"MARK"
S1001 TIMER
REC
OFF
PLAY
【DET BOARD】
Q1024
D1022
WHT
RED
(RED)((GRY))
BLK
VIO
WHT

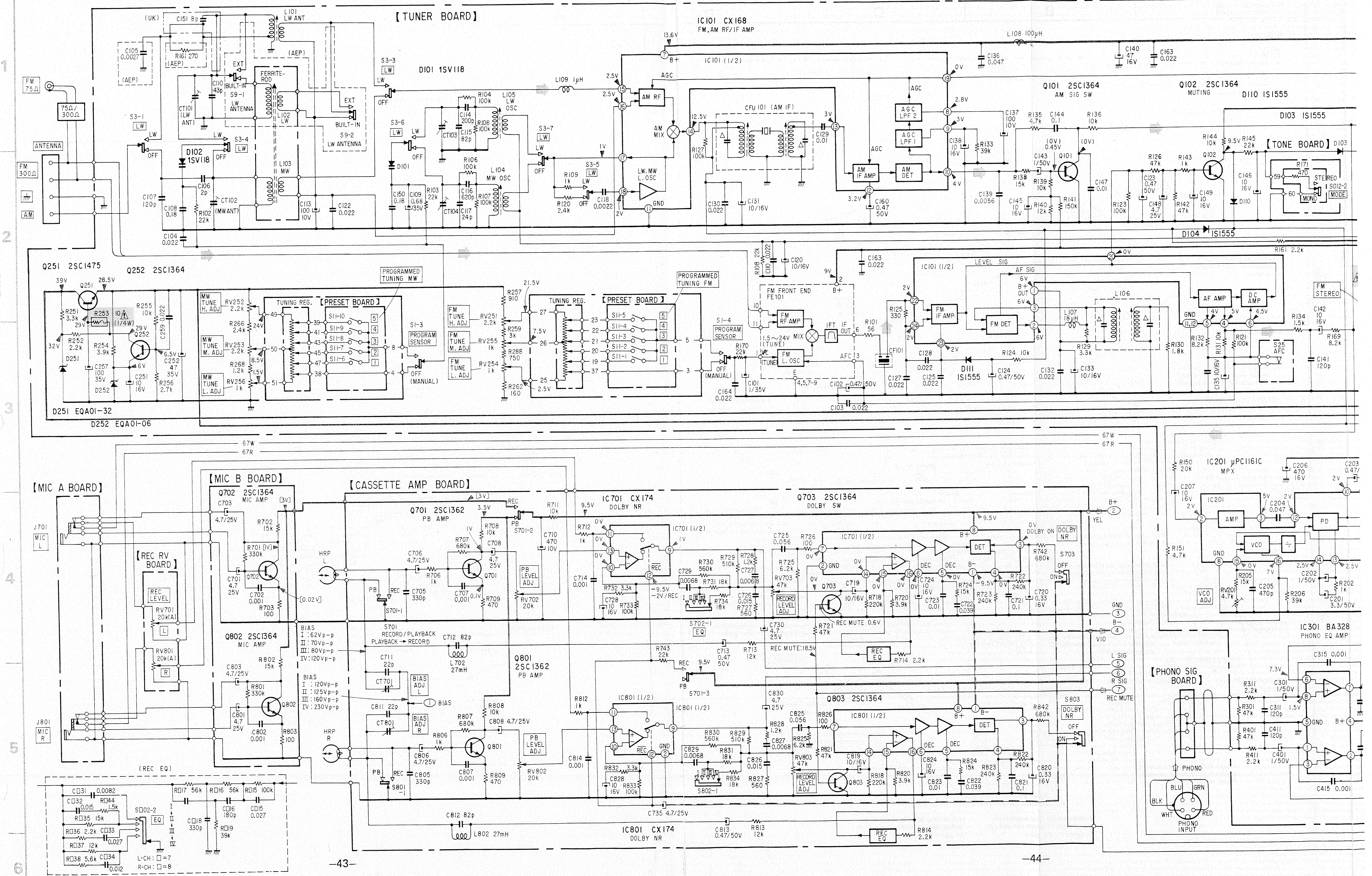
Note:

- Color code of sleeving over the end of the jacket.
- ○——: parts extracted from the component side.
- ●——: parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- [ ]⊣ : indicates side identified with part number.
- ▲ : nonflammable resistor.
- ░ : B + pattern
- ▒ : B − pattern
- ━━➡━━ : signal path

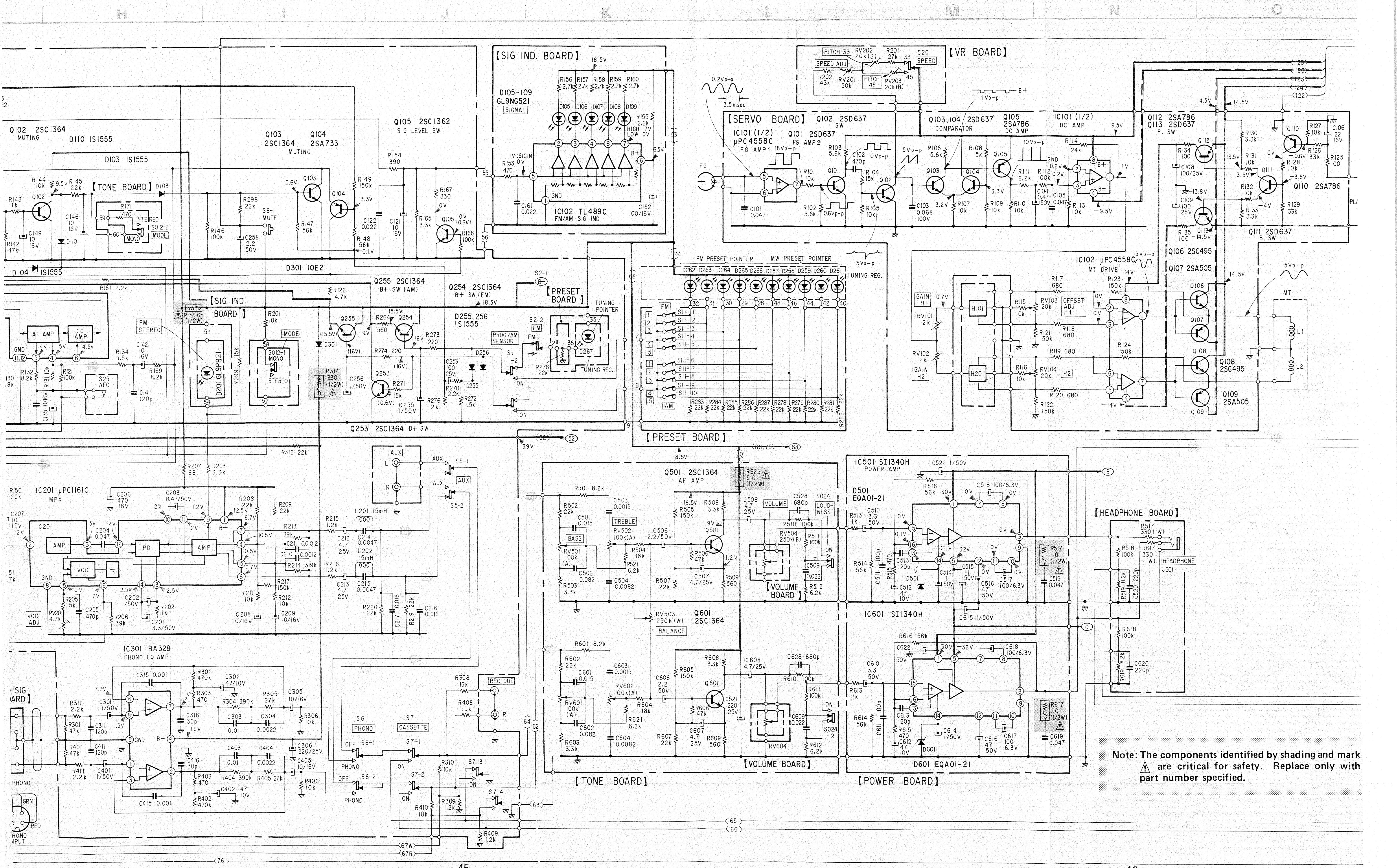
  ━━ ━ ━━➡ : L-CH signal path

  ━━·━·━━➡ : R-CH signal path
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalum.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ

3. SCHEMATIC DIAGRAM



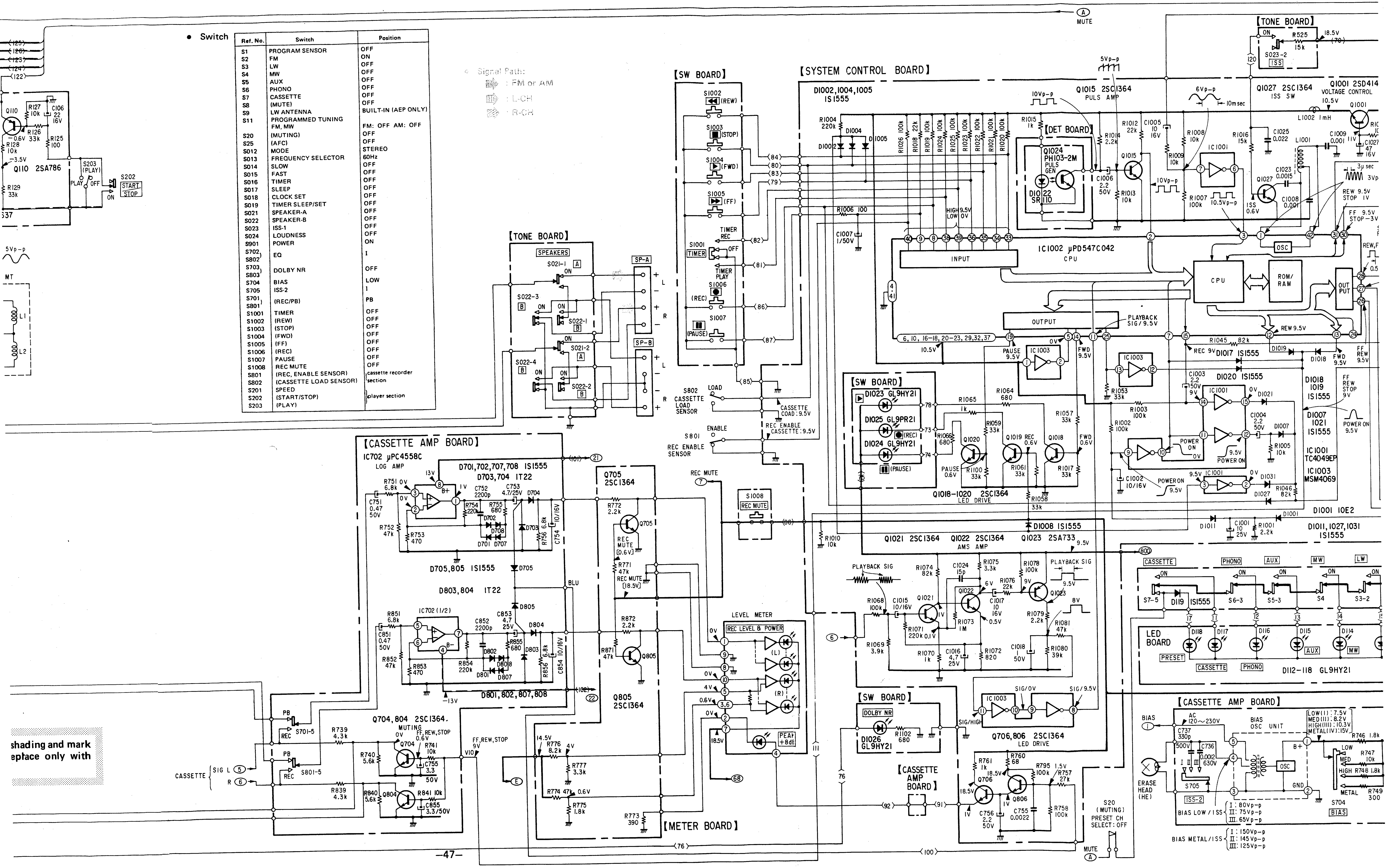
【TUNER BOARD】
IC101 CX168
FM, AM RF/IF AMP
L101 LW ANT
L108 100μH
D101 1SV118
D102 1SV118
L109 1μH
AM RF
AM MIX
LW, MW L. OSC
CFU101 (AM IF)
AGC LPF 2
AGC LPF 1
AM IF AMP
AM DET
Q101 2SC1364 AM SIG SW
Q102 2SC1364 MUTING
D110 1S1555
D103 1S1555
D104 1S1555
【TONE BOARD】
STEREO
MONO
S012-2 MODE
FERRITE-ROD
BUILT-IN
EXT
S9-1 LW ANTENNA
S9-2 LW ANTENNA
L102 LW
L103 MW
L104 MW OSC
L105 LW OSC
FM 75Ω
75Ω/300Ω
ANTENNA
FM 300Ω
AM
Q251 2SC1475
Q252 2SC1364
D251 EQA01-32
D252 EQA01-06
PROGRAMMED TUNING MW
PROGRAMMED TUNING FM
TUNING REG.
【PRESET BOARD】
MW TUNE H. ADJ
MW TUNE M. ADJ
MW TUNE L. ADJ
FM TUNE H. ADJ
FM TUNE M. ADJ
FM TUNE L. ADJ
S1-3 PROGRAM SENSOR
S1-4 PROGRAM SENSOR
OFF (MANUAL)
FM FRONT END FE101
FM RF AMP
FM L. OSC
IFT
IC101 (1/2)
LEVEL SIG
AF SIG
FM IF AMP
FM DET
L106
L107 18μH
D111 1S1555
AF AMP
DC AMP
S25 AFC
FM STEREO
67W
67R
【MIC A BOARD】
J701 MIC L
J801 MIC R
【MIC B BOARD】
Q702 2SC1364 MIC AMP
Q802 2SC1364 MIC AMP
【REC RV BOARD】
REC LEVEL
RV701 20k(A)
RV801 20k(A)
【CASSETTE AMP BOARD】
Q701 2SC1362 PB AMP
Q801 2SC1362 PB AMP
HRP L
HRP R
S701 RECORD/PLAYBACK
PLAYBACK ↔ RECORD
BIAS
I : 62Vp-p
II : 70Vp-p
III : 80Vp-p
IV : 120Vp-p
I : 120Vp-p
II : 125Vp-p
III : 160Vp-p
IV : 230Vp-p
BIAS ADJ L
BIAS ADJ R
L702 27mH
L802 27mH
PB LEVEL ADJ
IC701 CX174 DOLBY NR
IC801 CX174 DOLBY NR
Q703 2SC1364 DOLBY SW
Q803 2SC1364
DEC
DET
RECORD LEVEL ADJ
REC MUTE 0.6V
REC EQ
S703 DOLBY NR
S803 DOLBY NR
S702-1 EQ
S802-1
(REC EQ)
S002-2 EQ
L-CH : □=7
R-CH : □=8
B+
GND
B−
V10
L SIG
R SIG
REC MUTE
YEL
IC201 μPC1161C MPX
AMP
VCO
PD
VCO ADJ
IC301 BA328 PHONO EQ AMP
【PHONO SIG BOARD】
PHONO
PHONO INPUT
BLU
GRN
BLK
WHT
RED


H
I
J
K
L
M
N
O
【SIG IND. BOARD】
D105–109 GL9NG521 SIGNAL
IC102 TL489C FM/AM SIG IND
Q105 2SC1362 SIG LEVEL SW
Q103 2SC1364 MUTING
Q104 2SA733
Q102 2SC1364 MUTING
D110 1S1555
D103 1S1555
【TONE BOARD】
D104 1S1555
D301 10E2
Q255 2SC1364 B+ SW (AM)
Q254 2SC1364 B+ SW (FM)
D255, 256 1S1555
Q253 2SC1364 B+ SW
【SIG IND BOARD】
D201 GL9PR21
FM STEREO
AF AMP
DC AMP
S25 AFC
S8-1 MUTE
S012-1 MONO STEREO
MODE
【PRESET BOARD】
PROGRAM SENSOR
TUNING POINTER
TUNING REG.
FM PRESET POINTER
MW PRESET POINTER
D262 D263 D264 D265 D266 D257 D258 D259 D260 D261
S11-1 – S11-10
FM
AM
【PRESET BOARD】
【VR BOARD】
PITCH 33
SPEED ADJ
PITCH 45
SPEED
S201
【SERVO BOARD】
IC101 (1/2) μPC4558C FG AMP1
Q101 2SD637 FG AMP2
Q102 2SD637 SW
Q103, 104 2SD637 COMPARATOR
Q105 2SA786 DC AMP
IC101 (1/2) DC AMP
Q112 2SA786
Q113 2SD637 B. SW
Q110 2SA786
Q111 2SD637 B. SW
Q106 2SC495
Q107 2SA505
IC102 μPC4558C MT DRIVE
OFFSET ADJ H1
GAIN H1
GAIN H2
H101
H201
Q108 2SC495
Q109 2SA505
MT
L1
L2
IC201 μPC1161C MPX
AMP
PD
VCO
VCO ADJ
L201 15mH
L202 15mH
AUX
S5-1
S5-2
IC301 BA328 PHONO EQ AMP
SIG BOARD
PHONO
GRN
RED
PHONO INPUT
S6 PHONO
S7 CASSETTE
REC OUT
Q501 2SC1364 AF AMP
TREBLE
BASS
VOLUME
LOUDNESS
S024
BALANCE
Q601 2SC1364
【VOLUME BOARD】
【TONE BOARD】
【VOLUME BOARD】
IC501 SI1340H POWER AMP
D501 EQA01-21
IC601 SI1340H
D601 EQA01-21
【POWER BOARD】
【HEADPHONE BOARD】
HEADPHONE J501
R625 510 (1/2W)
R517 10 (1/2W)
R617 10 (1/2W)
R137 68 (1/2W)
R314 330 (1/2W)

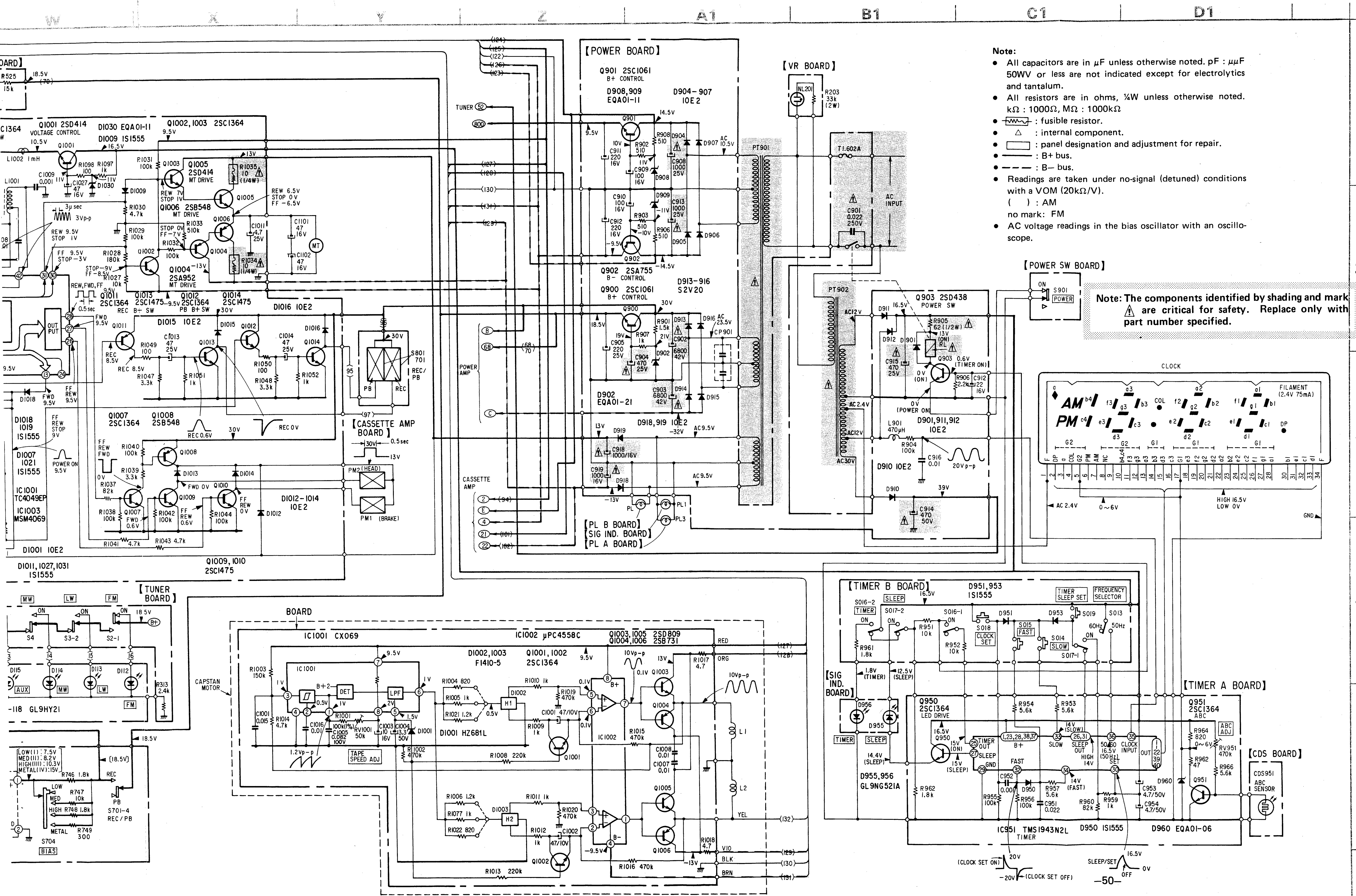
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- Switch

Ref. No.	Switch	Position
S1	PROGRAM SENSOR	OFF
S2	FM	ON
S3	LW	OFF
S4	MW	OFF
S5	AUX	OFF
S6	PHONO	OFF
S7	CASSETTE	OFF
S8	(MUTE)	OFF
S9	LW ANTENNA	BUILT-IN (AEP ONLY)
S11	PROGRAMMED TUNING FM, MW	FM: OFF AM: OFF
S20	(MUTING)	OFF
S25	(AFC)	OFF
S012	MODE	STEREO
S013	FREQUENCY SELECTOR	60Hz
S014	SLOW	OFF
S015	FAST	OFF
S016	TIMER	OFF
S017	SLEEP	OFF
S018	CLOCK SET	OFF
S019	TIMER SLEEP/SET	OFF
S021	SPEAKER-A	OFF
S022	SPEAKER-B	OFF
S023	ISS-1	OFF
S024	LOUDNESS	OFF
S901	POWER	ON
S702, S802	EQ	I
S703, S803	DOLBY NR	OFF
S704	BIAS	LOW
S705	ISS-2	I
S701, S801	(REC/PB)	PB
S1001	TIMER	OFF
S1002	(REW)	OFF
S1003	(STOP)	OFF
S1004	(FWD)	OFF
S1005	(FF)	OFF
S1006	(REC)	OFF
S1007	PAUSE	OFF
S1008	REC MUTE	OFF
S801	(REC, ENABLE SENSOR)	cassette recorder section
S802	(CASSETTE LOAD SENSOR)	
S201	SPEED	player section
S202	(START/STOP)	
S203	(PLAY)	


P
Q
R
S
T
U
V
W
Signal Path:
: FM or AM
: L-CH
: R-CH
Q110 2SA786
R127 10k
C106 22 16V
R126 33k
R125 100
R128 10k
-0.6V
-3.5V
R129 33k
S203 (PLAY)
PLAY
OFF
ON
S202
START
STOP
5Vp-p
MT
L1
L2
[TONE BOARD]
SPEAKERS
S021-1
S022-3
S021-2
S022-4
S022-1
S022-2
SP-A
SP-B
L
R
[SW BOARD]
S1002 (REW)
S1003 (STOP)
S1004 (FWD)
S1005 (FF)
S1001 TIMER
TIMER REC
TIMER PLAY
S1006 (REC)
S1007 (PAUSE)
S802 CASSETTE LOAD SENSOR
LOAD
S801 REC ENABLE SENSOR
ENABLE
CASSETTE LOAD: 9.5V
REC ENABLE CASSETTE: 9.5V
REC MUTE
S1008 REC MUTE
[SYSTEM CONTROL BOARD]
D1002, 1004, 1005 1S1555
R1004 220k
D1004
D1005
R1006 100
C1007 1/50V
HIGH 9.5V
LOW 0V
IC1002 μPD547C042 CPU
INPUT
CPU
ROM/RAM
OUT PUT
OUTPUT
OSC
PLAYBACK SIG/9.5V
REW 9.5V
6, 10, 16-18, 20-23, 29, 32, 37
10.5V
PAUSE 9.5V
FWD 9.5V
REC 9V
D1017 1S1555
R1045 82k
D1019
D1018
FF REW 9.5V
MUTE
Q1015 2SC1364 PULS AMP
10Vp-p
R1015 1k
[DET BOARD]
Q1024 PH103-2M PULS GEN
D1022 SR110
C1006 2.2 50V
R1014 2.2k
R1012 22k
R1013 10k
C1005 10 16V
6Vp-p
10msec
R1008 10k
R1009 10k
R1016 15k
IC1001
R1007 100k
10.5Vp-p
ISS 0.6V
Q1027 2SC1364 ISS SW
C1025 0.022
L1001
C1023 0.0015
C1008 0.001
Q1001 2SD414 VOLTAGE CONTROL
L1002 1mH
C1009 0.001
C1027 47 16V
3μsec
3Vp
REW 9.5V STOP 1V
FF 9.5V STOP -3V
[TONE BOARD]
R525 15k
18.5V
S023-2
ISS
[SW BOARD]
D1023 GL9HY21
D1025 GL9PR21 (REC)
D1024 GL9HY21 (PAUSE)
R1065 1k
R1064 680
R1066 680
R1059 33k
R1057 33k
Q1020
Q1019 REC 0.6V
Q1018
FWD 0.6V
PAUSE 0.6V
R1100 33k
R1061 33k
R1017 33k
Q1018-1020 2SC1364 LED DRIVE
R1058 33k
IC1003
R1053 33k
R1003 100k
R1002 100k
C1003 2.2 50V
C1004 2.2 50V
D1020 1S1555
D1021
D1007
R1005 10k
POWER ON
C1002 10/16V
D1031
D1027
R1046 82k
D1001
D1011
C1001 10 25V
R1001 2.2k
D1018 1019 1S1555
D1007 1021 1S1555
IC1001 TC4049EP
IC1003 MSM4069
D1001 10E2
D1011, 1027, 1031 1S1555
POWER ON 9.5V
D1008 1S1555
R1010 10k
Q1021 2SC1364
Q1022 2SC1364 AMS AMP
Q1023 2SA733
PLAYBACK SIG
R1074 82k
C1024 15p
R1075 3.3k
R1078 100k
R1076 22k
R1068 100k
C1015 10/16V
R1071 220k
R1073 1M
C1017 10 16V
R1079 2.2k
R1081 47k
R1069 3.9k
R1070 1k
C1016 4.7 25V
R1072 820
C1018 50V
R1080 39k
SIG/0V
SIG/9.5V
SIG/HIGH
[SW BOARD]
DOLBY NR
D1026 GL9HY21
R1102 680
Q706, 806 2SC1364 LED DRIVE
[CASSETTE AMP BOARD]
R761 1k
R760 68
R795 100k
R757 27k
Q706
Q806
C756 2.2 50V
C755 0.0022
R758 100k
S20 (MUTING) PRESET CH SELECT: OFF
MUTE
CASSETTE
PHONO
AUX
MW
LW
S7-5
D119 1S1555
S6-3
S5-3
S4
S3-2
LED BOARD
PRESET
D118
D117
D116
D115
D114
D112-118 GL9HY21
[CASSETTE AMP BOARD]
BIAS
AC 120~230V
C737 330p 500V
C736 0.0012 630V
BIAS OSC UNIT
OSC
GND
B+
ERASE HEAD (HE)
S705
ISS-2
BIAS LOW / ISS I: 80Vp-p II: 75Vp-p III: 65Vp-p
BIAS METAL / ISS I: 150Vp-p II: 145Vp-p III: 125Vp-p
LOW (I): 7.5V
MED (II): 8.2V
HIGH (III): 10.3V
METAL (IV): 15V
R746 1.8k
R747 10k
R748 1.8k
R749 300
S704
BIAS
[CASSETTE AMP BOARD]
IC702 μPC4558C LOG AMP
D701, 702, 707, 708 1S1555
D703, 704 1T22
R751 6.8k
C751 0.47 50V
R752 47k
R753 470
C752 2200p
C753 4.7/25V
R754 220k
R755 680
D702
D708
D701 D707
D703
R756 6.8k
C754 10/16V
D705, 805 1S1555
D705
D803, 804 1T22
D805
D804
BLU
IC702 (1/2)
R851 6.8k
C851 0.47 50V
R852 47k
R853 470
C852 2200p
C853 4.7 25V
R854 220k
R855 680
D802
D808
D801
D807
D803
R856 6.8k
C854 10/16V
-13V
D801, 802, 807, 808
Q705 2SC1364
R772 2.2k
REC MUTE (0.6V)
R771 47k
REC MUTE (18.5V)
R872 2.2k
R871 47k
Q805 2SC1364
LEVEL METER
REC LEVEL & POWER
(L)
(R)
PEAK +8dB
[METER BOARD]
14.5V
R776 8.2k
R777 3.3k
R774 47k
R775 1.8k
R773 390
PB
REC
S701-5
S801-5
CASSETTE SIG L
R
R739 4.3k
R839 4.3k
Q704, 804 2SC1364 MUTING
FF, REW, STOP
R740 5.6k
R741 10k
C755 3.3 50V
R840 5.6k
R841 10k
C855 3.3/50V
FF, REW, STOP 9V

shading and mark
eplace only with


W
X
Y
Z
A1
B1
C1
D1
1
2
3
4
5
6
【POWER BOARD】
Q901 2SC1061 B+ CONTROL
D908,909 EQA01-11
D904–907 10E2
Q902 2SA755 B– CONTROL
Q900 2SC1061 B+ CONTROL
D913–916 S2V20
D902 EQA01-21
D918,919 10E2
【VR BOARD】
NL201
R203 33k (2W)
PT901
PT902
T1.602A
C901 0.022 250V
AC INPUT
Q903 2SD438 POWER SW
D901,911,912 10E2
D910 10E2
L901 470μH
【POWER SW BOARD】
S901 POWER
CLOCK
FILAMENT (2.4V 75mA)
AM
PM
HIGH 16.5V LOW 0V
GND
AC 2.4V
0～6V
Q1001 2SD414 VOLTAGE CONTROL
D1030 EQA01-11
D1009 1S1555
Q1002,1003 2SC1364
Q1005 2SD414 MT DRIVE
Q1006 2SB548 MT DRIVE
Q1004 2SA952 MT DRIVE
Q1013 2SC1364 REC B+ SW
Q1011 2SC1475
Q1012 2SC1364 PB B+ SW
Q1014 2SC1475
D1016 10E2
D1015 10E2
Q1007 2SC1364
Q1008 2SB548
D1018 1019 1S1555
D1007 1021 1S1555
IC1001 TC4049EP
IC1003 MSM4069
D1001 10E2
D1011,1027,1031 1S1555
Q1009,1010 2SC1475
D1012–1014 10E2
【CASSETTE AMP BOARD】
S801 701 REC/PB
PM2 (HEAD)
PM1 (BRAKE)
POWER AMP
CASSETTE AMP
TUNER
【PL B BOARD】
【SIG IND. BOARD】
【PL A BOARD】
【TUNER BOARD】
MW
LW
FM
S4
S3-2
S2-1
AUX
GL9HY21
S704 BIAS
S701-4 REC/PB
LOW(I) : 7.5V
MED(II) : 8.2V
HIGH(III) : 10.3V
METAL(IV) : 15V
CAPSTAN MOTOR
BOARD
IC1001 CX069
IC1002 μPC4558C
Q1003,1005 2SD809
Q1004,1006 2SB731
D1002,1003 F1410-5
Q1001,1002 2SC1364
D1001 HZ681L
TAPE SPEED ADJ
RED
ORG
YEL
VIO
BLK
BRN
【TIMER B BOARD】
D951,953 1S1555
TIMER SLEEP SET
FREQUENCY SELECTOR
CLOCK SET
FAST
SLOW
【SIG IND. BOARD】
TIMER
SLEEP
D955,956 GL9NG521A
【TIMER A BOARD】
Q950 2SC1364 LED DRIVE
Q951 2SC1364 ABC
ABC ADJ
IC951 TMS1943N2L TIMER
D950 1S1555
D960 EQA01-06
【CDS BOARD】
CDS951 ABC SENSOR
(CLOCK SET ON)
(CLOCK SET OFF)
SLEEP/SET

Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalum.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- : fusible resistor.
- △ : internal component.
- ▭ : panel designation and adjustment for repair.
- ——— : B+ bus.
- – – – : B– bus.
- Readings are taken under no-signal (detuned) conditions with a VOM (20kΩ/V).
  ( ) : AM
  no mark: FM
- AC voltage readings in the bias oscillator with an oscilloscope.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Replacement Semiconductors

For replacement, use semiconductors except in ( ).

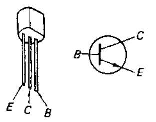
RECEIVER SECTION

Q101–103
Q252–255
Q501, 601
Q950, 951 } : 2SC1364

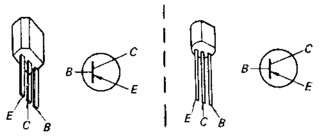
Q105 : 2SC1362

Q251 : 2SC1475

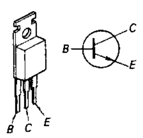
Q903 : 2SC1475 (2SD438)



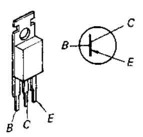
Q104: 2SA1027R (2SA733)


E C B
B
C
E
E C B
B
C
E

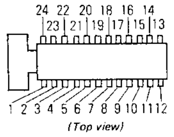
Q900, 901: 2SC1061



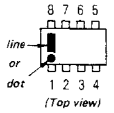
Q902: 2SA671 (2SA755)



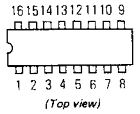
IC101: CX168


24 22 20 18 16 14
23 21 19 17 15 13
1 2 3 4 5 6 7 8 9 10 11 12
(Top view)

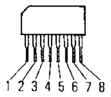
IC102: TL489CP (TL489C)


8 7 6 5
line
or
dot
1 2 3 4
(Top view)

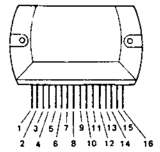
IC201: µPC1161C


16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
(Top view)

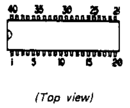
IC301: BA328



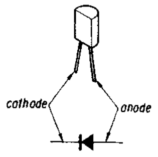
IC501, 601: SI1340H


1 3 5 7 9 11 13 15
2 4 6 8 10 12 14 16

IC951: TMS1943N2L

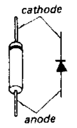

40 35 30 25 21
1 5 10 15 20
(Top view)

D101, 102: 1SV118


cathode
anode

D103, 104
D110, 111
D119
D255, 256
D950, 951, 953 } : 1S1555

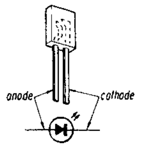
D301, 901
D904–907
D910–912
D917, 918 } : 10E2


cathode
anode

D105–109, D955, 956 : GL9NG521

D112–118 : GL9HY21

D201 : GL9PR21

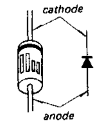

anode
cathode

D251 : EQB01-33 (EA01-32)

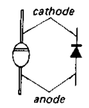
D252, 960 : EQB01-06 (EQA01-06)

D501, 601, D902 : EQB01-21 (EQA01-21)

D908, 909 : EQB01-11Z (EQA01-11)

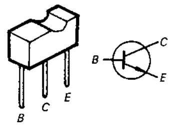

cathode
anode

D913–916: U05G

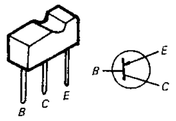

cathode
anode

RECORD PLAYER SECTION

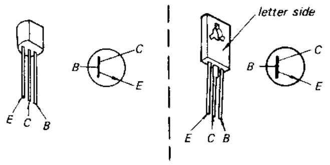
Q101–104, Q111, 113 : 2SC2021 (2SD637)



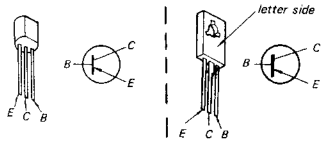
Q105, 110, 112: 2SA786



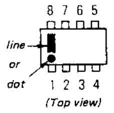
Q106, 108: 2SC1475 (2SC495)


E C B
B
C
E
letter side
E C B
B
C
E

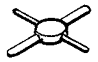
Q107, 109: 2SB648 (2SA505)


E C B
B
C
E
letter side
E C B
B
C
E

IC101, 102: µPC4558C


8 7 6 5
line
or
dot
1 2 3 4
(Top view)

H201, 202: F1409

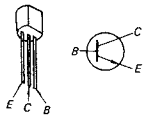


CASSETTE RECORDER SECTION

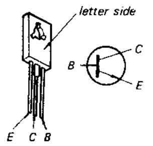
Q701, 801 : 2SC1362

Q702–706
Q802–806
Q1002, 1003
Q1007, 1011
Q1012, 1015
Q1018–1022
Q1027 } : 2SC1364

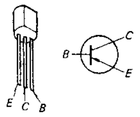
Q1009, 1010, Q1013, 1014 : 2SC1475



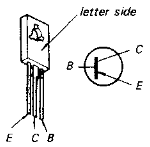
Q1001, 1005: 2SD414


letter side
E C B
B
C
E

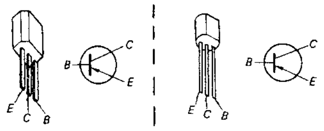
Q1004: 2SA952



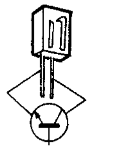
Q1006, 1008


letter side
E C B
B
C
E

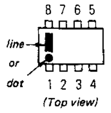
Q1023: 2SA1027R (2SA733)


E C B
B
C
E
E C B
B
C
E

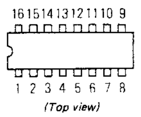
Q1024: PH103 (PH103-2M)



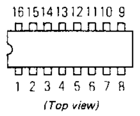
IC701, 801: CX174


8 7 6 5
line
or
dot
1 2 3 4
(Top view)

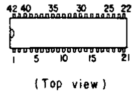
IC702: µPC4558C


16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
(Top view)

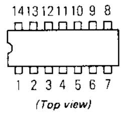
IC1001: TC4049BP


16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
(Top view)

IC1002: µPD547C042


42 40 35 30 25 22
1 5 10 15 21
(Top view)

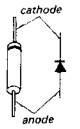
IC1003: MSM4069 (TC4069)


14 13 12 11 10 9 8
1 2 3 4 5 6 7
(Top view)

D701, 702
D705, 707
D708
D801, 802
D805, 807
D808
D1002–1005
D1007–1009
D1017–1021
D1027 } : 1S1555

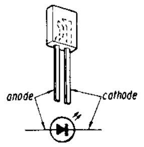
D703, 704, D803, 804 : 1T22AM (1T22)

D1001, D1012–1016 : 10E2

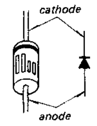

cathode
anode

D1023, 1024, D1026 : GL9HY21

D1025 : GL9PR21

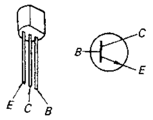

anode
cathode

D1030, 1031: EQB01-11Z (EQA01-11)

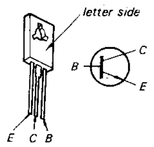

cathode
anode

CASSETTE RECORDER SECTION
– Servo Board –
(included in reel motor)

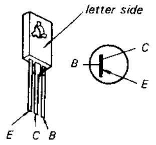
Q1001, 1002: 2SC1364



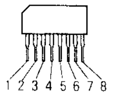
Q1003, 1005: 2SD809


letter side
E C B
B
C
E

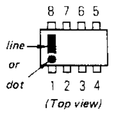
Q1004, 1006: 2SB731


letter side
E C B
B
C
E

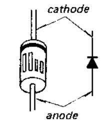
IC1001: CX069



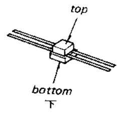
IC1002: µPC4558C


8 7 6 5
line
or
dot
1 2 3 4
(Top view)

D1001: HZ6B2L (HZ6B1L)


cathode
anode

D1002, 1003: F1410



1

2

3

4

5

5-

4-860-(
4-860-(
Bushin

SECTION 5
EXPLODED VIEWS

69)

M (1T22)

21

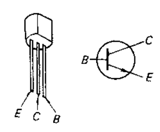
21

Z

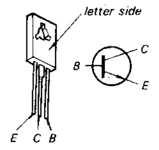
1)

CASSETTE RECORDER SECTION
– Servo Board –
(included in reel motor)

Q1001, 1002: 2SC1364

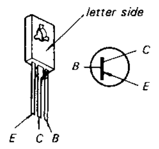


Q1003, 1005: 2SD809



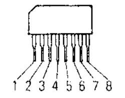
letter side
B
C
E
E C B

Q1004, 1006: 2SB731

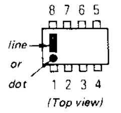


letter side
B
C
E
E C B

IC1001: CX069

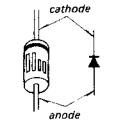


IC1002: μPC4558C



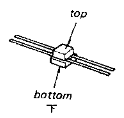
8 7 6 5
line or dot
1 2 3 4
(Top view)

D1001: HZ6B2L (HZ6B1L)



cathode
anode

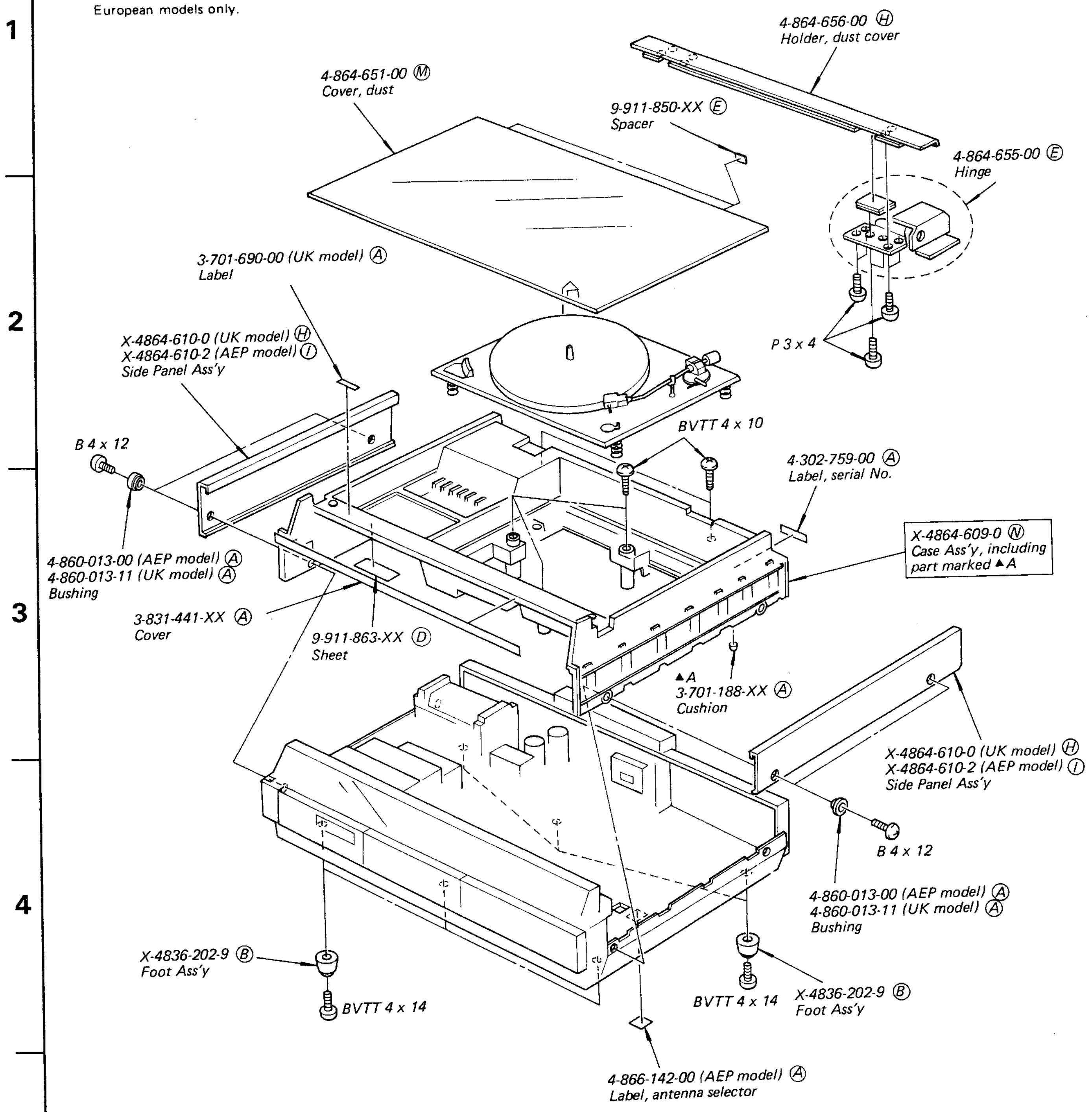
D1002, 1003: F1410



A B C D

5-1.

- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

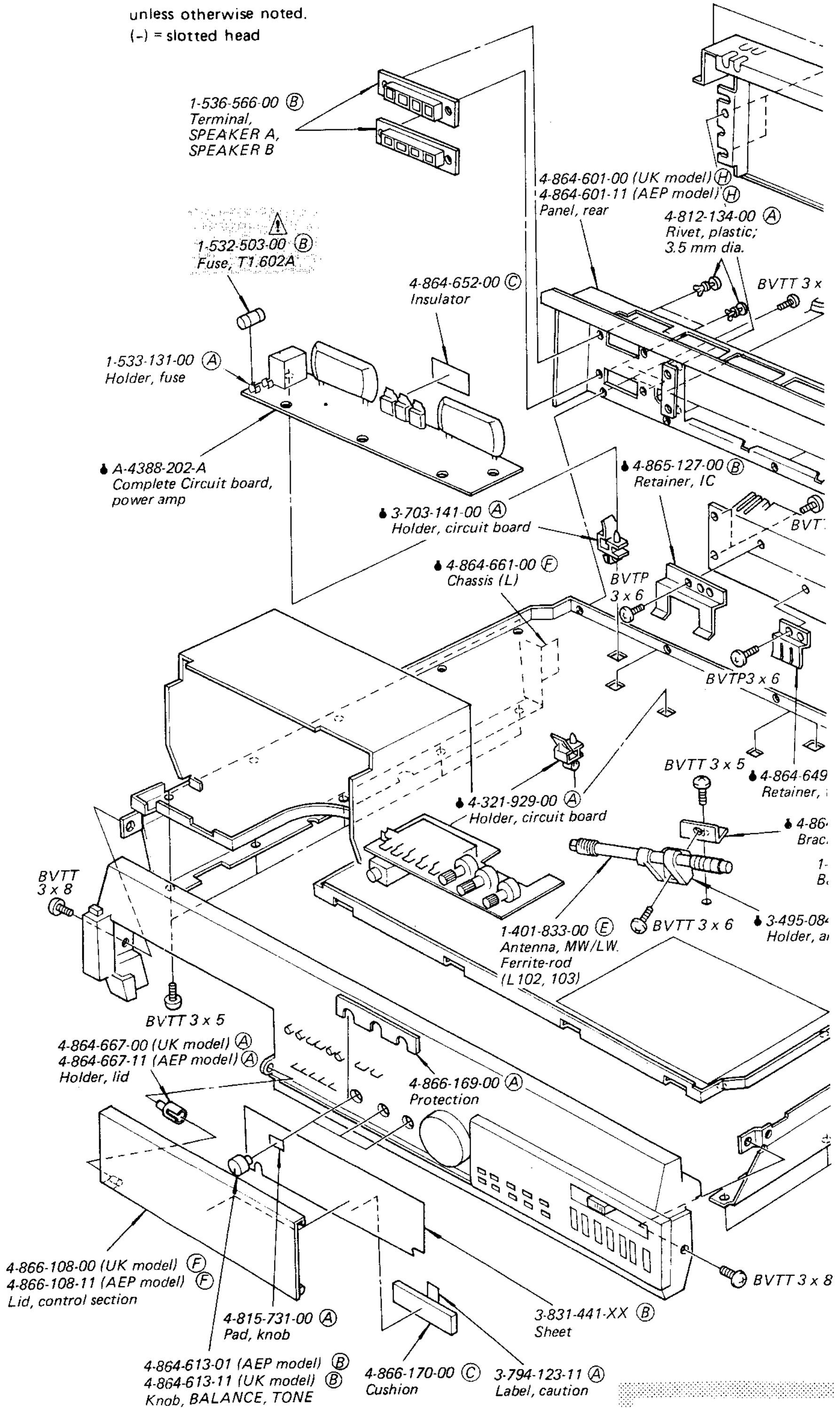


1
2
3
4
5
4-864-656-00 Ⓗ
Holder, dust cover
4-864-651-00 Ⓜ
Cover, dust
9-911-850-XX Ⓔ
Spacer
4-864-655-00 Ⓔ
Hinge
3-701-690-00 (UK model) Ⓐ
Label
P 3 x 4
X-4864-610-0 (UK model) Ⓗ
X-4864-610-2 (AEP model) Ⓘ
Side Panel Ass'y
B 4 x 12
BVTT 4 x 10
4-302-759-00 Ⓐ
Label, serial No.
X-4864-609-0 Ⓝ
Case Ass'y, including part marked ▲A
4-860-013-00 (AEP model) Ⓐ
4-860-013-11 (UK model) Ⓐ
Bushing
3-831-441-XX Ⓐ
Cover
9-911-863-XX Ⓓ
Sheet
▲A
3-701-188-XX Ⓐ
Cushion
X-4864-610-0 (UK model) Ⓗ
X-4864-610-2 (AEP model) Ⓘ
Side Panel Ass'y
B 4 x 12
4-860-013-00 (AEP model) Ⓐ
4-860-013-11 (UK model) Ⓐ
Bushing
X-4836-202-9 Ⓑ
Foot Ass'y
BVTT 4 x 14
BVTT 4 x 14
X-4836-202-9 Ⓑ
Foot Ass'y
4-866-142-00 (AEP model) Ⓐ
Label, antenna selector

A B

5-2.

Note:
- Items marked "♠" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applic
  European models only.



1
2
3
4
5
1-536-566-00 Ⓑ
Terminal,
SPEAKER A,
SPEAKER B
4-864-601-00 (UK model) Ⓗ
4-864-601-11 (AEP model) Ⓗ
Panel, rear
4-812-134-00 Ⓐ
Rivet, plastic;
3.5 mm dia.
BVTT 3 x
⚠
1-532-503-00 Ⓑ
Fuse, T1.602A
4-864-652-00 Ⓒ
Insulator
1-533-131-00 Ⓐ
Holder, fuse
♠ A-4388-202-A
Complete Circuit board,
power amp
♠ 4-865-127-00 Ⓑ
Retainer, IC
♠ 3-703-141-00 Ⓐ
Holder, circuit board
BVT
♠ 4-864-661-00 Ⓕ
Chassis (L)
BVTP
3 x 6
BVTP3 x 6
BVTT 3 x 5
♠ 4-864-649
Retainer,
♠ 4-321-929-00 Ⓐ
Holder, circuit board
♠ 4-86
Brac.
1-
B
BVTT
3 x 8
1-401-833-00 Ⓔ
Antenna, MW/LW.
Ferrite-rod
(L 102, 103)
BVTT 3 x 6
♠ 3-495-08
Holder, a
BVTT 3 x 5
4-864-667-00 (UK model) Ⓐ
4-864-667-11 (AEP model) Ⓐ
Holder, lid
4-866-169-00 Ⓐ
Protection
4-866-108-00 (UK model) Ⓕ
4-866-108-11 (AEP model) Ⓕ
Lid, control section
BVTT 3 x 8
4-815-731-00 Ⓐ
Pad, knob
3-831-441-XX Ⓑ
Sheet
4-864-613-01 (AEP model) Ⓑ
4-864-613-11 (UK model) Ⓑ
Knob, BALANCE, TONE
4-866-170-00 Ⓒ
Cushion
3-794-123-11 Ⓐ
Label, caution

Note: The compone
⚠ are .critic
part number

SECTION 5
EXPLODED VIEWS

)69)

M (1T22)

(21

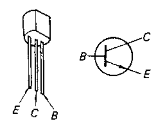
:21

Z

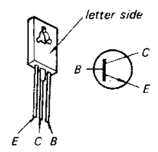
1)

CASSETTE RECORDER SECTION
– Servo Board –
(included in reel motor)

Q1001, 1002: 2SC1364

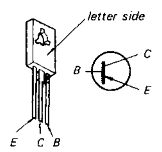


Q1003, 1005: 2SD809



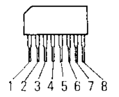
letter side
B
C
E
E C B

Q1004, 1006: 2SB731

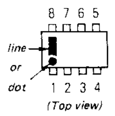


letter side
B
C
E
E C B

IC1001: CX069

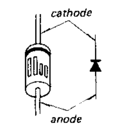


IC1002: μPC4558C



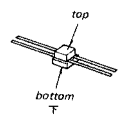
8 7 6 5
line
or
dot
1 2 3 4
(Top view)

D1001: HZ6B2L (HZ6B1L)



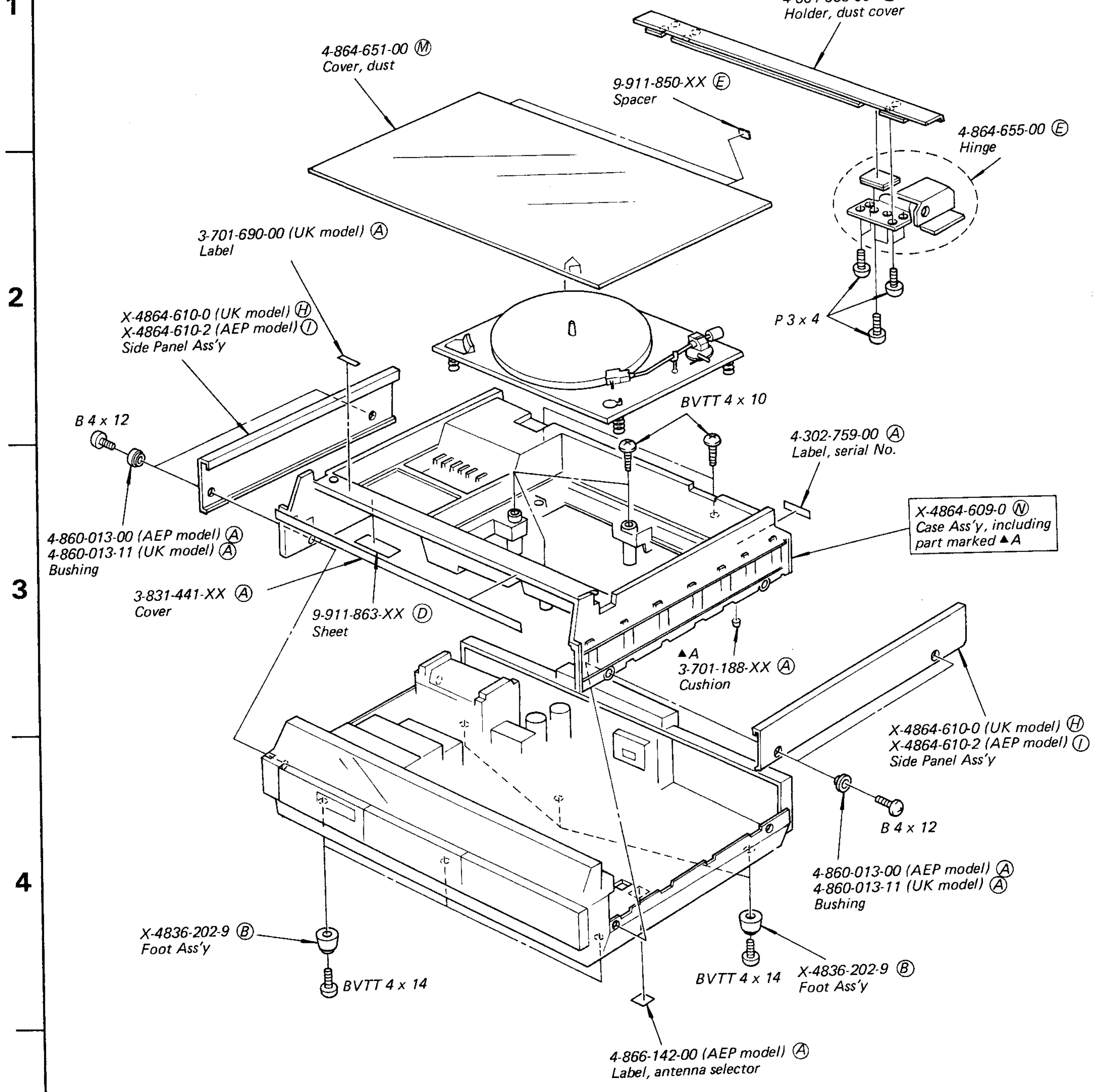
cathode
anode

D1002, 1003: F1410



5-1.

- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

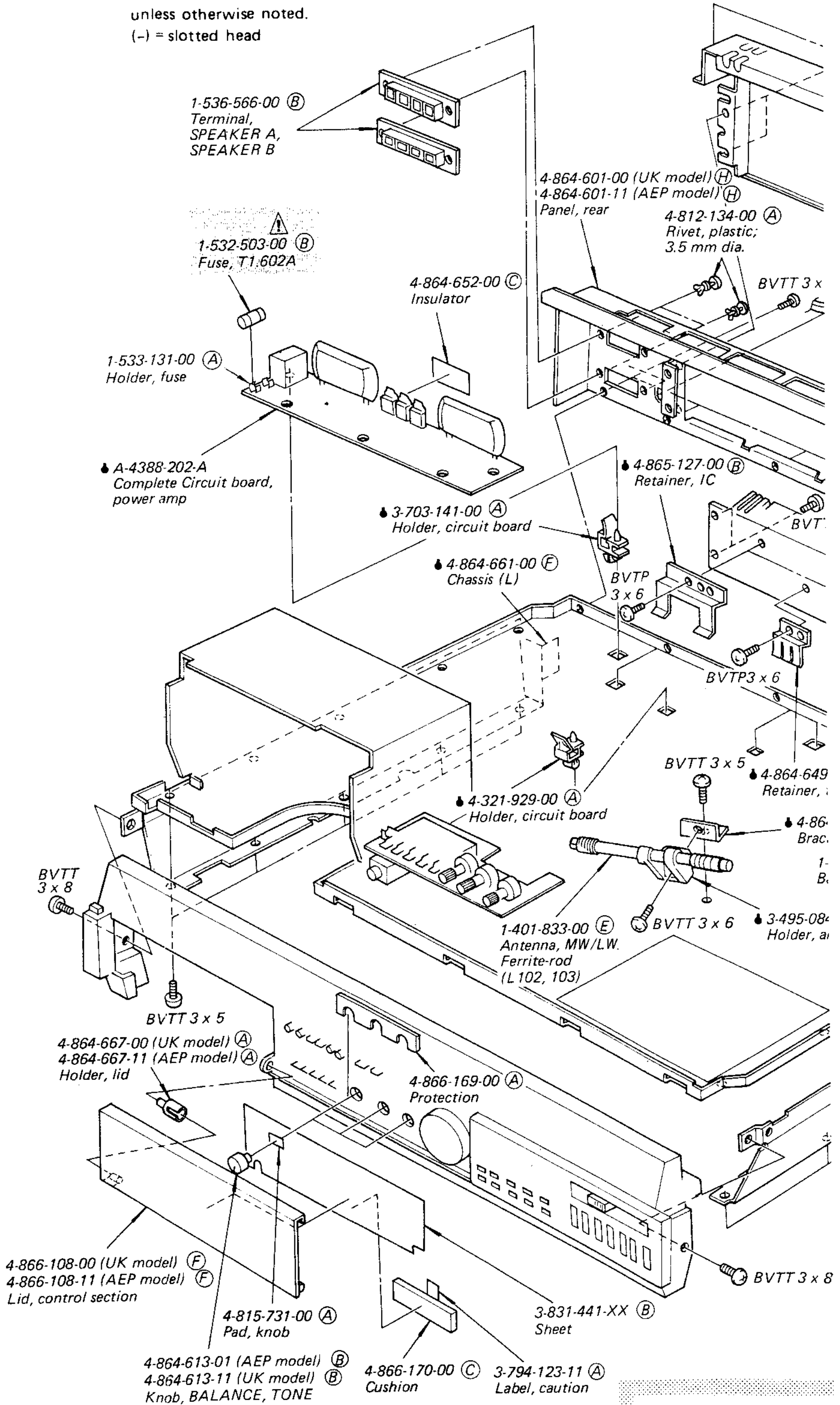


A
B
C
D
1
2
3
4
5
4-864-656-00 Ⓗ
Holder, dust cover
4-864-651-00 Ⓜ
Cover, dust
9-911-850-XX Ⓔ
Spacer
4-864-655-00 Ⓔ
Hinge
3-701-690-00 (UK model) Ⓐ
Label
P 3 x 4
X-4864-610-0 (UK model) Ⓗ
X-4864-610-2 (AEP model) Ⓘ
Side Panel Ass'y
B 4 x 12
BVTT 4 x 10
4-302-759-00 Ⓐ
Label, serial No.
X-4864-609-0 Ⓝ
Case Ass'y, including
part marked ▲A
4-860-013-00 (AEP model) Ⓐ
4-860-013-11 (UK model) Ⓐ
Bushing
3-831-441-XX Ⓐ
Cover
9-911-863-XX Ⓓ
Sheet
▲A
3-701-188-XX Ⓐ
Cushion
X-4864-610-0 (UK model) Ⓗ
X-4864-610-2 (AEP model) Ⓘ
Side Panel Ass'y
B 4 x 12
4-860-013-00 (AEP model) Ⓐ
4-860-013-11 (UK model) Ⓐ
Bushing
X-4836-202-9 Ⓑ
Foot Ass'y
BVTT 4 x 14
BVTT 4 x 14
X-4836-202-9 Ⓑ
Foot Ass'y
4-866-142-00 (AEP model) Ⓐ
Label, antenna selector

5-2.

Note:

- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applic
  European models only.



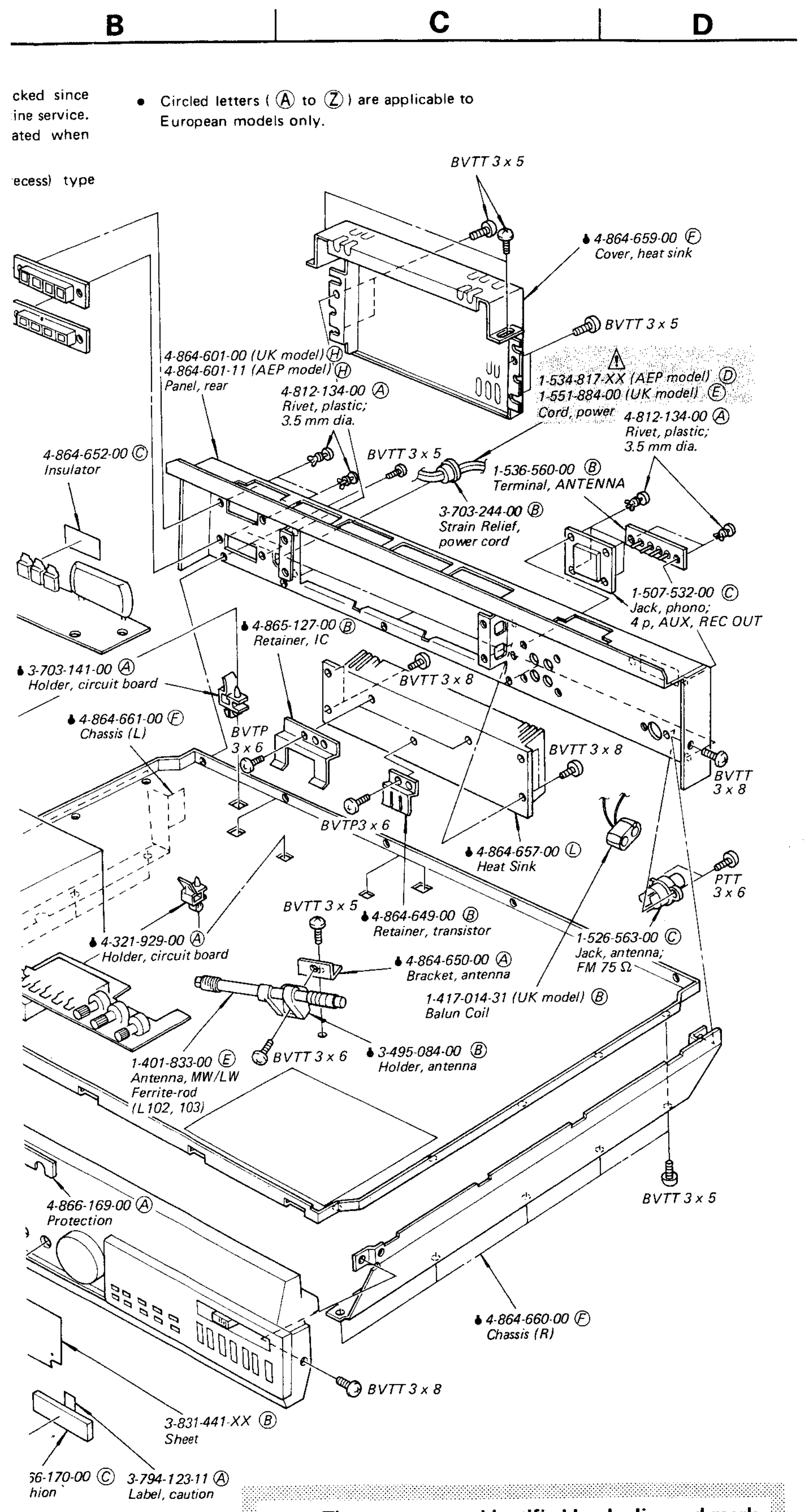
A
B
1
2
3
4
5
1-536-566-00 Ⓑ
Terminal,
SPEAKER A,
SPEAKER B
4-864-601-00 (UK model) Ⓗ
4-864-601-11 (AEP model) Ⓗ
Panel, rear
4-812-134-00 Ⓐ
Rivet, plastic;
3.5 mm dia.
⚠
1-532-503-00 Ⓑ
Fuse, T1.602A
4-864-652-00 Ⓒ
Insulator
BVTT 3 x
1-533-131-00 Ⓐ
Holder, fuse
♦ A-4388-202-A
Complete Circuit board,
power amp
♦ 4-865-127-00 Ⓑ
Retainer, IC
♦ 3-703-141-00 Ⓐ
Holder, circuit board
BVT
♦ 4-864-661-00 Ⓕ
Chassis (L)
BVTP
3 x 6
BVTP3 x 6
BVTT 3 x 5
♦ 4-864-649
Retainer,
♦ 4-321-929-00 Ⓐ
Holder, circuit board
♦ 4-86
Brac.
1-
B.
BVTT
3 x 8
1-401-833-00 Ⓔ
Antenna, MW/LW.
Ferrite-rod
(L102, 103)
BVTT 3 x 6
♦ 3-495-08
Holder, a
BVTT 3 x 5
4-864-667-00 (UK model) Ⓐ
4-864-667-11 (AEP model) Ⓐ
Holder, lid
4-866-169-00 Ⓐ
Protection
4-866-108-00 (UK model) Ⓕ
4-866-108-11 (AEP model) Ⓕ
Lid, control section
BVTT 3 x 8
4-815-731-00 Ⓐ
Pad, knob
3-831-441-XX Ⓑ
Sheet
4-864-613-01 (AEP model) Ⓑ
4-864-613-11 (UK model) Ⓑ
Knob, BALANCE, TONE
4-866-170-00 Ⓒ
Cushion
3-794-123-11 Ⓐ
Label, caution

Note: The compone
⚠ are critic
part number

cked since
ine service.
ated when

ecess) type

- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

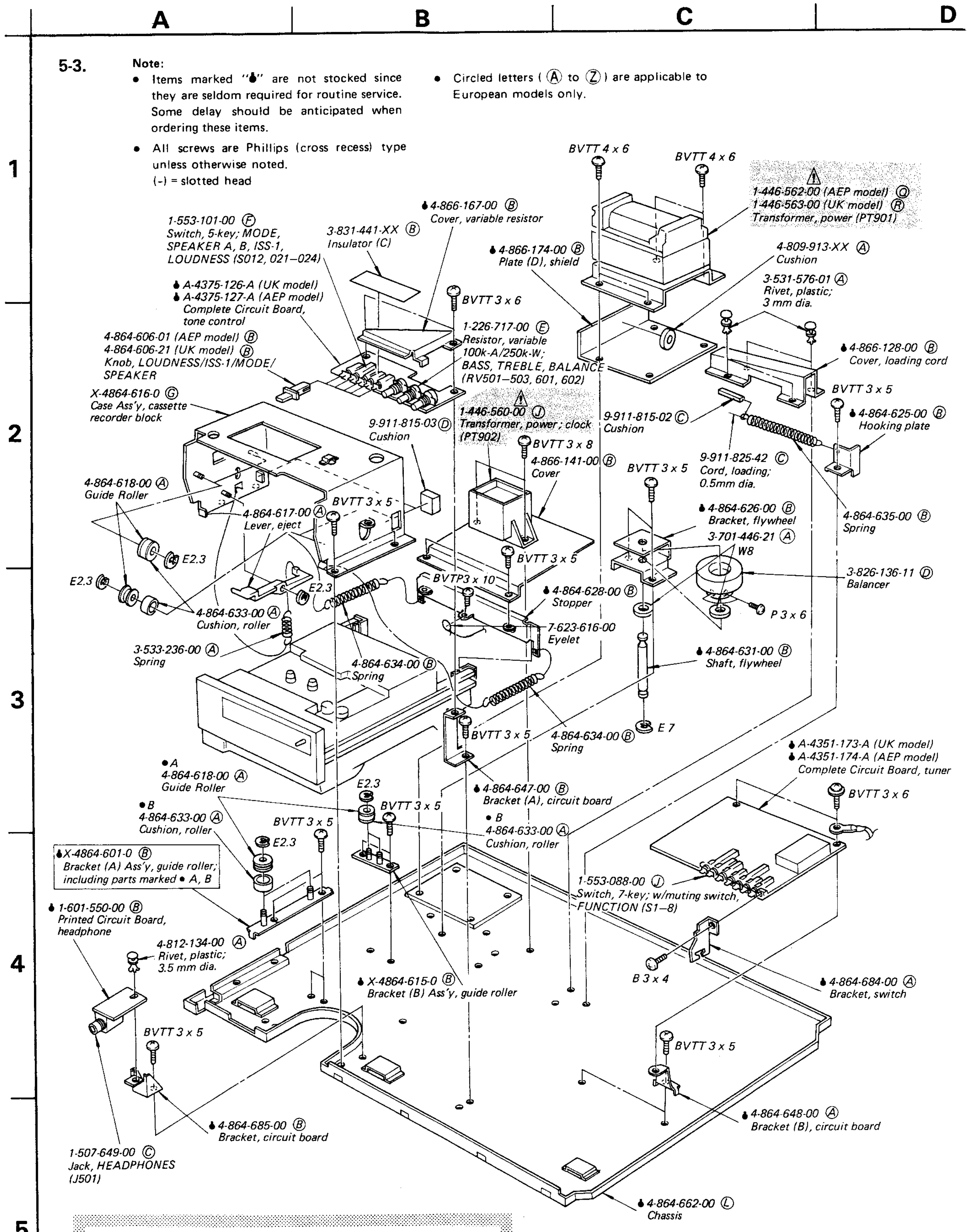

B
C
D
BVTT 3 x 5
♦ 4-864-659-00 Ⓕ
Cover, heat sink
BVTT 3 x 5
4-864-601-00 (UK model) Ⓗ
4-864-601-11 (AEP model) Ⓗ
Panel, rear
4-812-134-00 Ⓐ
Rivet, plastic;
3.5 mm dia.
⚠
1-534-817-XX (AEP model) Ⓓ
1-551-884-00 (UK model) Ⓔ
Cord, power
4-812-134-00 Ⓐ
Rivet, plastic;
3.5 mm dia.
4-864-652-00 Ⓒ
Insulator
BVTT 3 x 5
1-536-560-00 Ⓑ
Terminal, ANTENNA
3-703-244-00 Ⓑ
Strain Relief,
power cord
1-507-532-00 Ⓒ
Jack, phono;
4 p, AUX, REC OUT
♦ 4-865-127-00 Ⓑ
Retainer, IC
♦ 3-703-141-00 Ⓐ
Holder, circuit board
BVTT 3 x 8
♦ 4-864-661-00 Ⓕ
Chassis (L)
BVTP
3 x 6
BVTT 3 x 8
BVTT
3 x 8
BVTP3 x 6
♦ 4-864-657-00 Ⓛ
Heat Sink
PTT
3 x 6
BVTT 3 x 5
♦ 4-864-649-00 Ⓑ
Retainer, transistor
♦ 4-321-929-00 Ⓐ
Holder, circuit board
♦ 4-864-650-00 Ⓐ
Bracket, antenna
1-526-563-00 Ⓒ
Jack, antenna;
FM 75 Ω
1-417-014-31 (UK model) Ⓑ
Balun Coil
1-401-833-00 Ⓔ
Antenna, MW/LW
Ferrite-rod
(L102, 103)
BVTT 3 x 6
♦ 3-495-084-00 Ⓑ
Holder, antenna
BVTT 3 x 5
4-866-169-00 Ⓐ
Protection
♦ 4-864-660-00 Ⓕ
Chassis (R)
BVTT 3 x 8
3-831-441-XX Ⓑ
Sheet
66-170-00 Ⓒ
hion
3-794-123-11 Ⓐ
Label, caution

Note: The components identified by shading and mark ⚠ are .critical for safety. Replace only with part number specified.

5-3.

Note:

- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
B
C
D
1
2
3
4
5
BVTT 4 x 6
BVTT 4 x 6
⚠
1-446-562-00 (AEP model) Ⓠ
1-446-563-00 (UK model) Ⓡ
Transformer, power (PT901)
♦ 4-866-167-00 Ⓑ
Cover, variable resistor
1-553-101-00 Ⓕ
Switch, 5-key; MODE,
SPEAKER A, B, ISS-1,
LOUDNESS (S012, 021–024)
3-831-441-XX Ⓑ
Insulator (C)
♦ 4-866-174-00 Ⓑ
Plate (D), shield
4-809-913-XX Ⓐ
Cushion
3-531-576-01 Ⓐ
Rivet, plastic;
3 mm dia.
♦ A-4375-126-A (UK model)
♦ A-4375-127-A (AEP model)
Complete Circuit Board,
tone control
BVTT 3 x 6
1-226-717-00 Ⓔ
Resistor, variable
100k-A/250k-W;
BASS, TREBLE, BALANCE
(RV501–503, 601, 602)
4-864-606-01 (AEP model) Ⓑ
4-864-606-21 (UK model) Ⓑ
Knob, LOUDNESS/ISS-1/MODE/
SPEAKER
♦ 4-866-128-00 Ⓑ
Cover, loading cord
X-4864-616-0 Ⓖ
Case Ass'y, cassette
recorder block
⚠
1-446-560-00 Ⓙ
Transformer, power; clock
(PT902)
9-911-815-03 Ⓓ
Cushion
9-911-815-02 Ⓒ
Cushion
BVTT 3 x 5
♦ 4-864-625-00 Ⓑ
Hooking plate
BVTT 3 x 8
4-866-141-00 Ⓑ
Cover
BVTT 3 x 5
9-911-825-42 Ⓒ
Cord, loading;
0.5mm dia.
4-864-618-00 Ⓐ
Guide Roller
BVTT 3 x 5
4-864-617-00 Ⓐ
Lever, eject
♦ 4-864-626-00 Ⓑ
Bracket, flywheel
3-701-446-21 Ⓐ
W8
4-864-635-00 Ⓑ
Spring
E2.3
E2.3
E2.3
BVTT 3 x 5
BVTP3 x 10
3-826-136-11 Ⓓ
Balancer
♦ 4-864-628-00 Ⓑ
Stopper
P 3 x 6
4-864-633-00 Ⓐ
Cushion, roller
7-623-616-00
Eyelet
3-533-236-00 Ⓐ
Spring
4-864-634-00 Ⓑ
Spring
♦ 4-864-631-00 Ⓑ
Shaft, flywheel
BVTT 3 x 5
4-864-634-00 Ⓑ
Spring
E 7
♦ A-4351-173-A (UK model)
♦ A-4351-174-A (AEP model)
Complete Circuit Board, tuner
● A
4-864-618-00 Ⓐ
Guide Roller
E2.3
♦ 4-864-647-00 Ⓑ
Bracket (A), circuit board
BVTT 3 x 6
● B
4-864-633-00 Ⓐ
Cushion, roller
BVTT 3 x 5
BVTT 3 x 5
● B
4-864-633-00 Ⓐ
Cushion, roller
E2.3
♦ X-4864-601-0 Ⓑ
Bracket (A) Ass'y, guide roller;
including parts marked ● A, B
♦ 1-601-550-00 Ⓑ
Printed Circuit Board,
headphone
1-553-088-00 Ⓙ
Switch, 7-key; w/muting switch,
FUNCTION (S1–8)
4-812-134-00 Ⓐ
Rivet, plastic;
3.5 mm dia.
♦ X-4864-615-0 Ⓑ
Bracket (B) Ass'y, guide roller
B 3 x 4
♦ 4-864-684-00 Ⓐ
Bracket, switch
BVTT 3 x 5
BVTT 3 x 5
♦ 4-864-648-00 Ⓐ
Bracket (B), circuit board
♦ 4-864-685-00 Ⓑ
Bracket, circuit board
1-507-649-00 Ⓒ
Jack, HEADPHONES
(J501)
♦ 4-864-662-00 Ⓛ
Chassis

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

BASE POST, CONNECTOR ETC.

— tuner board —

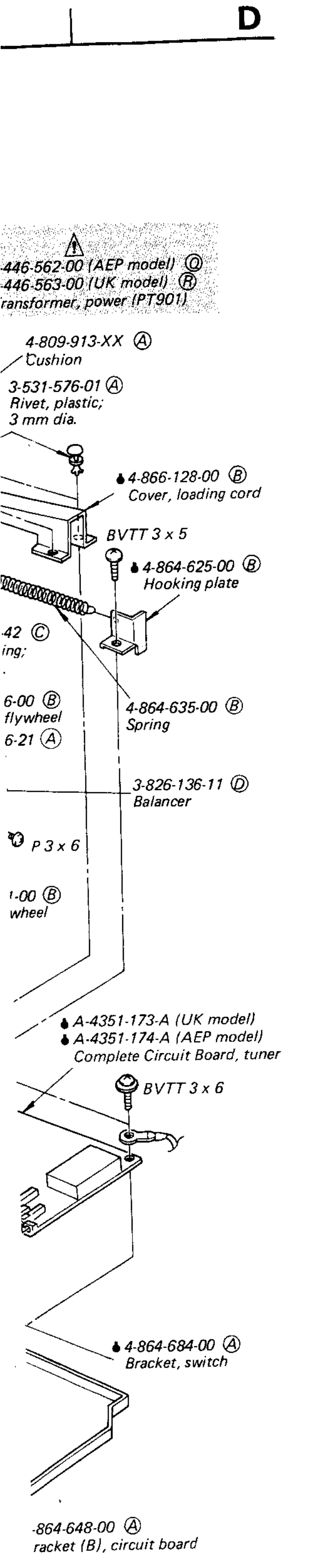
Part No.	Description	Fig.
♦ 1-560-126-00	connector plug 6P	A
♦ 1-560-281-00	connector pin 5P	B
♦ 1-561-439-00	connector socket 3P	C
♦ 1-561-440-00	connector socket 4P	C
♦ 1-561-442-00	connector socket 6P	C
♦ 1-561-444-00	connector socket 8P	C
♦ 1-561-445-00	connector socket 9P	C
♦ 1-508-704-00	connector pin	D

— tone board —

Part No.	Description	Fig.
♦ 1-508-822-00	17mm base post	E
♦ 1-508-823-00	17mm base post	E
♦ 1-535-116-00	terminal with base 3P	D
♦ 1-535-117-00	terminal with base 4P	D
♦ 1-535-118-00	terminal with base 5P	D
♦ 1-535-119-00	terminal with base 6P	D
♦ 1-560-286-00	connector pin 2P	B
♦ 1-561-439-00	connector socket 3P	C
♦ 1-561-440-00	connector socket 4P	C

— power board —

Part No.	Description	Fig.
♦ 1-535-116-00	terminal with base 3P	D
♦ 1-535-117-00	terminal with base 4P	D
♦ 1-535-118-00	terminal with base 5P	D
♦ 1-535-121-00	terminal with base 8P	D
♦ 1-560-281-00	connector pin 5P	B
♦ 1-561-440-00	connector socket 4P	C


D
446-562-00 (AEP model) Ⓠ
446-563-00 (UK model) Ⓡ
ransformer, power (PT901)
4-809-913-XX Ⓐ
Cushion
3-531-576-01 Ⓐ
Rivet, plastic;
3 mm dia.
♠4-866-128-00 Ⓑ
Cover, loading cord
BVTT 3 x 5
♠4-864-625-00 Ⓑ
Hooking plate
42 Ⓒ
ing;
6-00 Ⓑ
flywheel
6-21 Ⓐ
4-864-635-00 Ⓑ
Spring
3-826-136-11 Ⓓ
Balancer
P 3 x 6
-00 Ⓑ
wheel
♠A-4351-173-A (UK model)
♠A-4351-174-A (AEP model)
Complete Circuit Board, tuner
BVTT 3 x 6
♠4-864-684-00 Ⓐ
Bracket, switch
-864-648-00 Ⓐ
racket (B), circuit board

BASE POST, CONNECTOR ETC.

– tuner board –

Part No.	Description	Fig.
♠1-560-126-00	connector plug 6P	A
♠1-560-281-00	connector pin 5P	B
♠1-561-439-00	connector socket 3P	C
♠1-561-440-00	connector socket 4P	C
♠1-561-442-00	connector socket 6P	C
♠1-561-444-00	connector socket 8P	C
♠1-561-445-00	connector socket 9P	C
♠1-508-704-00	connector pin	D

– tone board –

Part No.	Description	Fig.
♠1-508-822-00	17mm base post	E
♠1-508-823-00	17mm base post	E
♠1-535-116-00	terminal with base 3P	D
♠1-535-117-00	terminal with base 4P	D
♠1-535-118-00	terminal with base 5P	D
♠1-535-119-00	terminal with base 6P	D
♠1-560-286-00	connector pin 2P	B
♠1-561-439-00	connector socket 3P	C
♠1-561-440-00	connector socket 4P	C

– power board –

Part No.	Description	Fig.
♠1-535-116-00	terminal with base 3P	D
♠1-535-117-00	terminal with base 4P	D
♠1-535-118-00	terminal with base 5P	D
♠1-535-121-00	terminal with base 8P	D
♠1-560-281-00	connector pin 5P	B
♠1-561-440-00	connector socket 4P	C

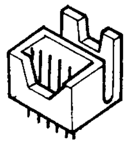


Fig. A

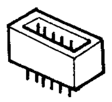


Fig. B

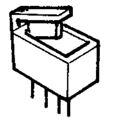


Fig. C

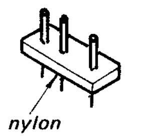


Fig. D

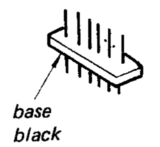


Fig. E

5-4.

Note:

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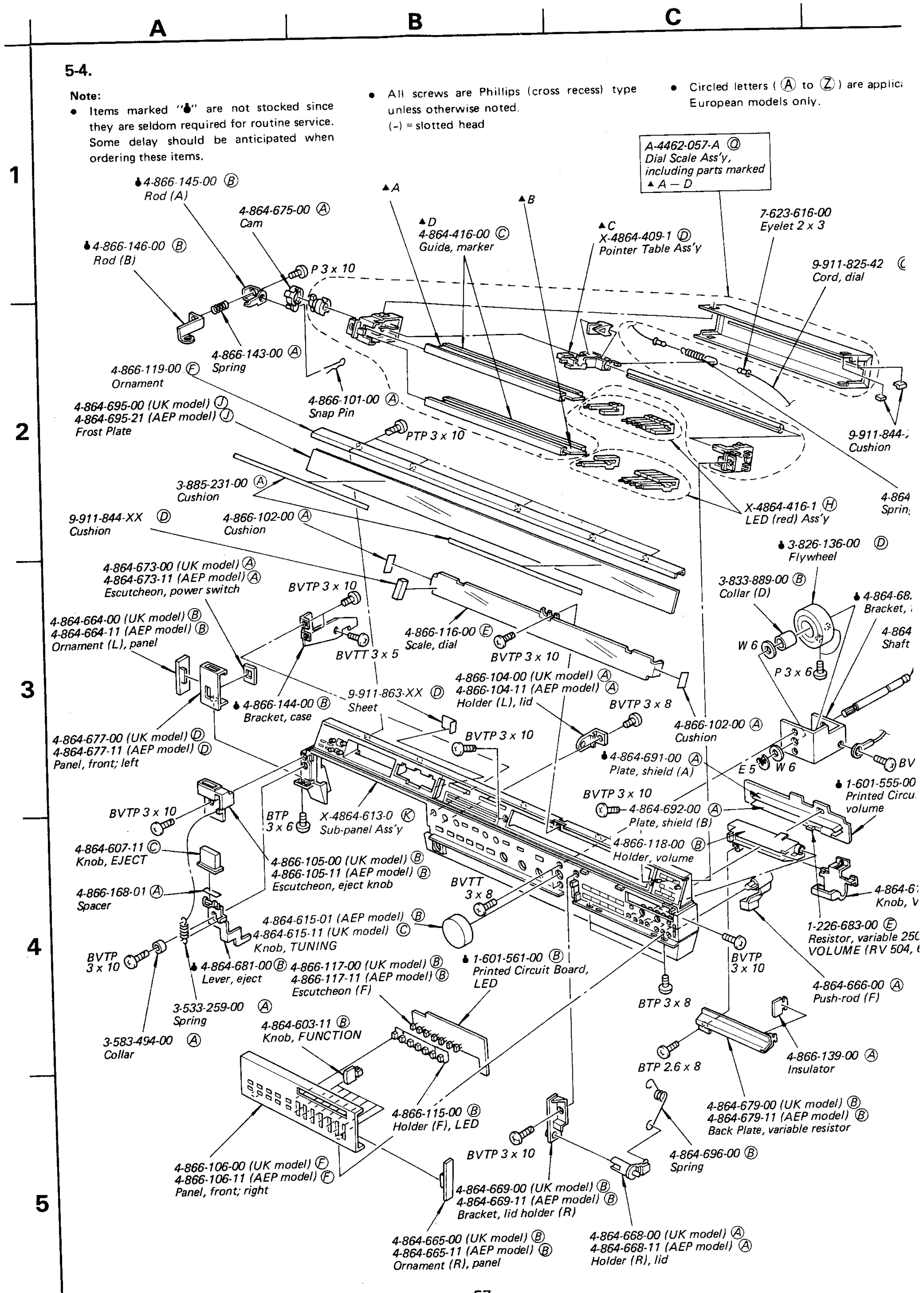
A
B
C
1
2
3
4
5
A-4462-057-A Ⓠ
Dial Scale Ass'y,
including parts marked
▲A – D
♠4-866-145-00 Ⓑ
Rod (A)
4-864-675-00 Ⓐ
Cam
▲A
▲B
▲D
4-864-416-00 Ⓒ
Guide, marker
▲C
X-4864-409-1 Ⓓ
Pointer Table Ass'y
7-623-616-00
Eyelet 2 x 3
♠4-866-146-00 Ⓑ
Rod (B)
P 3 x 10
9-911-825-42 Ⓒ
Cord, dial
4-866-143-00 Ⓐ
Spring
4-866-119-00 Ⓕ
Ornament
4-866-101-00 Ⓐ
Snap Pin
4-864-695-00 (UK model) Ⓙ
4-864-695-21 (AEP model) Ⓙ
Frost Plate
PTP 3 x 10
9-911-844-
Cushion
3-885-231-00 Ⓐ
Cushion
4-864
Spring
X-4864-416-1 Ⓗ
LED (red) Ass'y
9-911-844-XX Ⓓ
Cushion
4-866-102-00 Ⓐ
Cushion
♠3-826-136-00 Ⓓ
Flywheel
4-864-673-00 (UK model) Ⓐ
4-864-673-11 (AEP model) Ⓐ
Escutcheon, power switch
BVTP 3 x 10
3-833-889-00 Ⓑ
Collar (D)
♠4-864-68
Bracket,
4-864-664-00 (UK model) Ⓑ
4-864-664-11 (AEP model) Ⓑ
Ornament (L), panel
4-866-116-00 Ⓔ
Scale, dial
W 6
4-864
Shaft
BVTT 3 x 5
BVTP 3 x 10
P 3 x 6
4-866-104-00 (UK model) Ⓐ
4-866-104-11 (AEP model) Ⓐ
Holder (L), lid
♠4-866-144-00 Ⓑ
Bracket, case
9-911-863-XX Ⓓ
Sheet
BVTP 3 x 8
4-864-677-00 (UK model) Ⓓ
4-864-677-11 (AEP model) Ⓓ
Panel, front; left
BVTP 3 x 10
4-866-102-00 Ⓐ
Cushion
♠4-864-691-00 Ⓐ
Plate, shield (A)
E 5
W 6
BV
♠1-601-555-00
Printed Circu
volume
BVTP 3 x 10
BTP
3 x 6
X-4864-613-0 Ⓚ
Sub-panel Ass'y
BVTP 3 x 10
4-864-692-00 Ⓐ
Plate, shield (B)
4-866-118-00 Ⓑ
Holder, volume
4-864-607-11 Ⓒ
Knob, EJECT
4-866-105-00 (UK model) Ⓑ
4-866-105-11 (AEP model) Ⓑ
Escutcheon, eject knob
BVTT
3 x 8
4-866-168-01 Ⓐ
Spacer
4-864-6
Knob, V
4-864-615-01 (AEP model) Ⓑ
4-864-615-11 (UK model) Ⓒ
Knob, TUNING
1-226-683-00 Ⓔ
Resistor, variable 25
VOLUME (RV 504,
BVTP
3 x 10
♠4-864-681-00 Ⓑ
Lever, eject
4-866-117-00 (UK model) Ⓑ
4-866-117-11 (AEP model) Ⓑ
Escutcheon (F)
♠1-601-561-00 Ⓑ
Printed Circuit Board,
LED
BVTP
3 x 10
4-864-666-00 Ⓐ
Push-rod (F)
BTP 3 x 8
3-533-259-00 Ⓐ
Spring
4-864-603-11 Ⓑ
Knob, FUNCTION
3-583-494-00 Ⓐ
Collar
BTP 2.6 x 8
4-866-139-00 Ⓐ
Insulator
4-864-679-00 (UK model) Ⓑ
4-864-679-11 (AEP model) Ⓑ
Back Plate, variable resistor
4-866-115-00 Ⓑ
Holder (F), LED
BVTP 3 x 10
4-864-696-00 Ⓑ
Spring
4-866-106-00 (UK model) Ⓕ
4-866-106-11 (AEP model) Ⓕ
Panel, front; right
4-864-669-00 (UK model) Ⓑ
4-864-669-11 (AEP model) Ⓑ
Bracket, lid holder (R)
4-864-665-00 (UK model) Ⓑ
4-864-665-11 (AEP model) Ⓑ
Ornament (R), panel
4-864-668-00 (UK model) Ⓐ
4-864-668-11 (AEP model) Ⓐ
Holder (R), lid

5-4.

Note:

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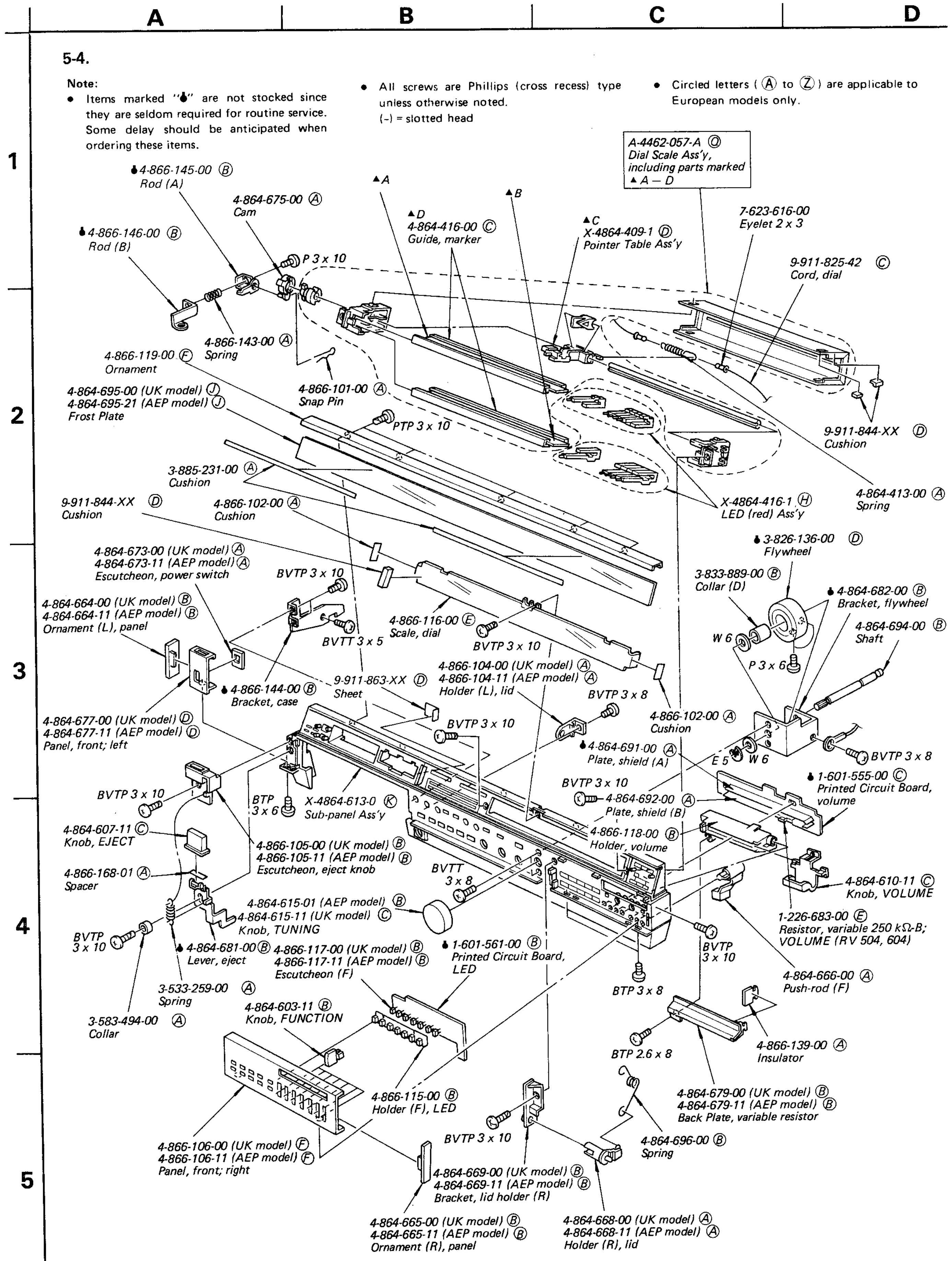
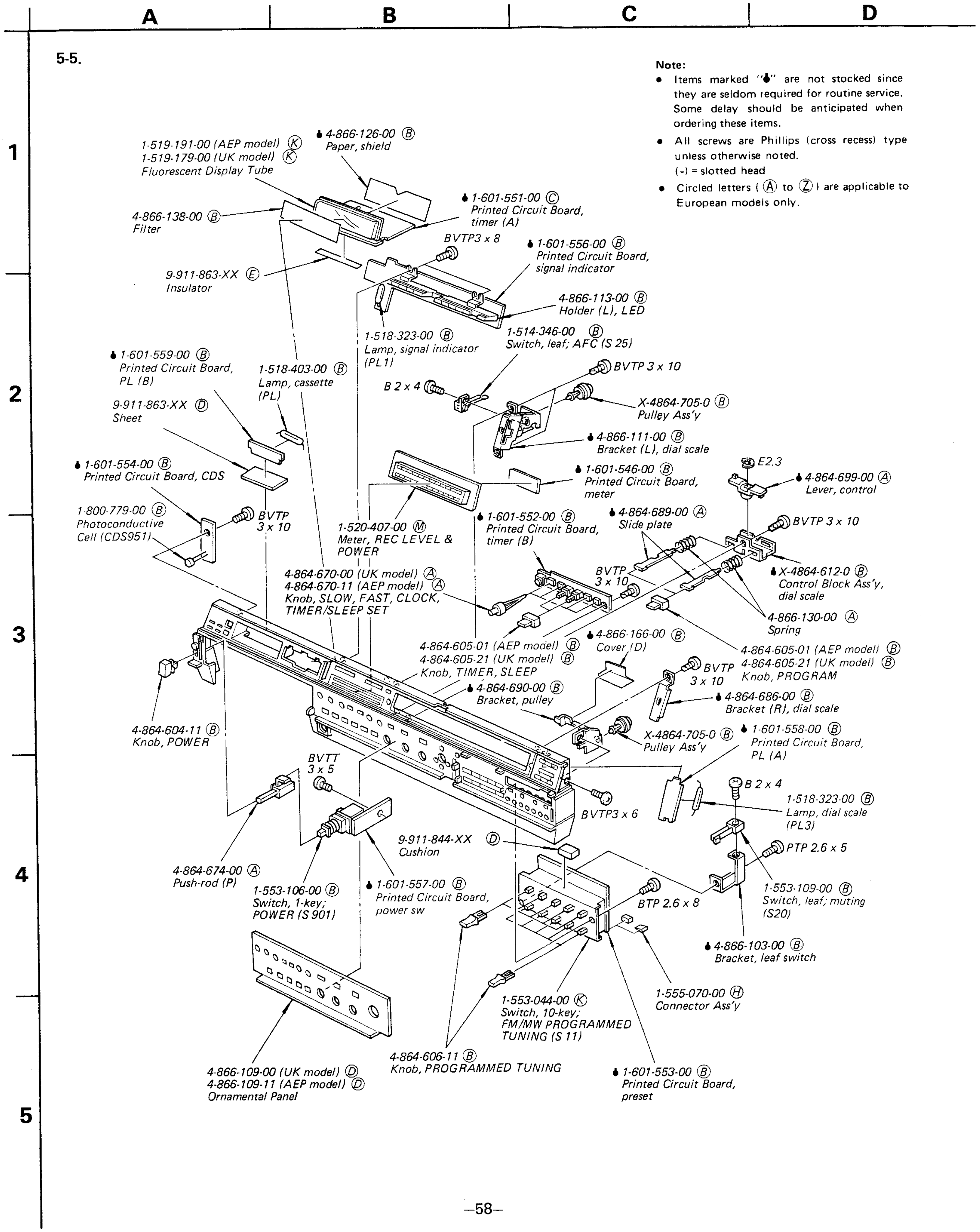

A
B
C
D
1
2
3
4
5
A-4462-057-A Ⓠ
Dial Scale Ass'y, including parts marked ▲A – D
♠4-866-145-00 Ⓑ Rod (A)
4-864-675-00 Ⓐ Cam
♠4-866-146-00 Ⓑ Rod (B)
P 3 x 10
▲A
▲B
▲D 4-864-416-00 Ⓒ Guide, marker
▲C X-4864-409-1 Ⓓ Pointer Table Ass'y
7-623-616-00 Eyelet 2 x 3
9-911-825-42 Ⓒ Cord, dial
4-866-143-00 Ⓐ Spring
4-866-119-00 Ⓕ Ornament
4-864-695-00 (UK model) Ⓙ
4-864-695-21 (AEP model) Ⓙ
Frost Plate
4-866-101-00 Ⓐ Snap Pin
PTP 3 x 10
9-911-844-XX Ⓓ Cushion
3-885-231-00 Ⓐ Cushion
9-911-844-XX Ⓓ Cushion
4-866-102-00 Ⓐ Cushion
X-4864-416-1 Ⓗ LED (red) Ass'y
4-864-413-00 Ⓐ Spring
♠3-826-136-00 Ⓓ Flywheel
4-864-673-00 (UK model) Ⓐ
4-864-673-11 (AEP model) Ⓐ
Escutcheon, power switch
BVTP 3 x 10
3-833-889-00 Ⓑ Collar (D)
♠4-864-682-00 Ⓑ Bracket, flywheel
4-864-664-00 (UK model) Ⓑ
4-864-664-11 (AEP model) Ⓑ
Ornament (L), panel
4-866-116-00 Ⓔ Scale, dial
BVTT 3 x 5
BVTP 3 x 10
W 6
4-864-694-00 Ⓑ Shaft
P 3 x 6
9-911-863-XX Ⓔ Sheet
♠4-866-144-00 Ⓑ Bracket, case
4-866-104-00 (UK model) Ⓐ
4-866-104-11 (AEP model) Ⓐ
Holder (L), lid
BVTP 3 x 8
4-866-102-00 Ⓐ Cushion
4-864-677-00 (UK model) Ⓓ
4-864-677-11 (AEP model) Ⓓ
Panel, front; left
BVTP 3 x 10
♠4-864-691-00 Ⓐ Plate, shield (A)
E 5
W 6
BVTP 3 x 8
BVTP 3 x 10
4-864-692-00 Ⓐ Plate, shield (B)
♠1-601-555-00 Ⓒ Printed Circuit Board, volume
BVTP 3 x 10
BTP 3 x 6
X-4864-613-0 Ⓚ Sub-panel Ass'y
4-866-118-00 Ⓑ Holder, volume
4-864-607-11 Ⓒ Knob, EJECT
4-866-105-00 (UK model) Ⓑ
4-866-105-11 (AEP model) Ⓑ
Escutcheon, eject knob
BVTT 3 x 8
4-864-610-11 Ⓒ Knob, VOLUME
4-866-168-01 Ⓐ Spacer
4-864-615-01 (AEP model) Ⓑ
4-864-615-11 (UK model) Ⓒ
Knob, TUNING
1-226-683-00 Ⓔ Resistor, variable 250 kΩ-B; VOLUME (RV 504, 604)
BVTP 3 x 10
♠4-864-681-00 Ⓑ Lever, eject
4-866-117-00 (UK model) Ⓑ
4-866-117-11 (AEP model) Ⓑ
Escutcheon (F)
♠1-601-561-00 Ⓑ Printed Circuit Board, LED
BVTP 3 x 10
4-864-666-00 Ⓐ Push-rod (F)
3-533-259-00 Ⓐ Spring
BTP 3 x 8
4-864-603-11 Ⓑ Knob, FUNCTION
3-583-494-00 Ⓐ Collar
4-866-139-00 Ⓐ Insulator
BTP 2.6 x 8
4-866-115-00 Ⓑ Holder (F), LED
4-864-679-00 (UK model) Ⓑ
4-864-679-11 (AEP model) Ⓑ
Back Plate, variable resistor
BVTP 3 x 10
4-864-696-00 Ⓑ Spring
4-866-106-00 (UK model) Ⓕ
4-866-106-11 (AEP model) Ⓕ
Panel, front; right
4-864-669-00 (UK model) Ⓑ
4-864-669-11 (AEP model) Ⓑ
Bracket, lid holder (R)
4-864-665-00 (UK model) Ⓑ
4-864-665-11 (AEP model) Ⓑ
Ornament (R), panel
4-864-668-00 (UK model) Ⓐ
4-864-668-11 (AEP model) Ⓐ
Holder (R), lid

5-5.

Note:

- Items marked "♠" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted. (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
B
C
D
1
2
3
4
5
1-519-191-00 (AEP model) Ⓚ
1-519-179-00 (UK model) Ⓚ
Fluorescent Display Tube
♠4-866-126-00 Ⓑ Paper, shield
♠1-601-551-00 Ⓒ Printed Circuit Board, timer (A)
4-866-138-00 Ⓑ Filter
BVTP3 x 8
♠1-601-556-00 Ⓑ Printed Circuit Board, signal indicator
9-911-863-XX Ⓔ Insulator
4-866-113-00 Ⓑ Holder (L), LED
1-518-323-00 Ⓑ Lamp, signal indicator (PL1)
1-514-346-00 Ⓑ Switch, leaf; AFC (S 25)
♠1-601-559-00 Ⓑ Printed Circuit Board, PL (B)
1-518-403-00 Ⓑ Lamp, cassette (PL)
BVTP 3 x 10
B 2 x 4
9-911-863-XX Ⓓ Sheet
X-4864-705-0 Ⓑ Pulley Ass'y
♠4-866-111-00 Ⓑ Bracket (L), dial scale
♠1-601-554-00 Ⓑ Printed Circuit Board, CDS
E2.3
♠1-601-546-00 Ⓑ Printed Circuit Board, meter
♠4-864-699-00 Ⓐ Lever, control
1-800-779-00 Ⓑ Photoconductive Cell (CDS951)
BVTP 3 x 10
1-520-407-00 Ⓜ Meter, REC LEVEL & POWER
♠1-601-552-00 Ⓑ Printed Circuit Board, timer (B)
♠4-864-689-00 Ⓐ Slide plate
BVTP 3 x 10
4-864-670-00 (UK model) Ⓐ
4-864-670-11 (AEP model) Ⓐ
Knob, SLOW, FAST, CLOCK, TIMER/SLEEP SET
BVTP 3 x 10
♠X-4864-612-0 Ⓑ Control Block Ass'y, dial scale
4-866-130-00 Ⓐ Spring
4-864-605-01 (AEP model) Ⓑ
4-864-605-21 (UK model) Ⓑ
Knob, TIMER, SLEEP
♠4-866-166-00 Ⓑ Cover (D)
4-864-605-01 (AEP model) Ⓑ
4-864-605-21 (UK model) Ⓑ
Knob, PROGRAM
BVTP 3 x 10
♠4-864-690-00 Ⓑ Bracket, pulley
♠4-864-686-00 Ⓑ Bracket (R), dial scale
4-864-604-11 Ⓑ Knob, POWER
X-4864-705-0 Ⓑ Pulley Ass'y
♠1-601-558-00 Ⓑ Printed Circuit Board, PL (A)
BVTT 3 x 5
B 2 x 4
BVTP3 x 6
1-518-323-00 Ⓑ Lamp, dial scale (PL3)
9-911-844-XX Ⓓ Cushion
PTP 2.6 x 5
4-864-674-00 Ⓐ Push-rod (P)
1-553-106-00 Ⓑ Switch, 1-key; POWER (S 901)
♠1-601-557-00 Ⓑ Printed Circuit Board, power sw
BTP 2.6 x 8
1-553-109-00 Ⓑ Switch, leaf; muting (S20)
♠4-866-103-00 Ⓑ Bracket, leaf switch
1-553-044-00 Ⓚ Switch, 10-key; FM/MW PROGRAMMED TUNING (S 11)
1-555-070-00 Ⓗ Connector Ass'y
4-864-606-11 Ⓑ Knob, PROGRAMMED TUNING
4-866-109-00 (UK model) Ⓓ
4-866-109-11 (AEP model) Ⓓ
Ornamental Panel
♠1-601-553-00 Ⓑ Printed Circuit Board, preset

A B C D

5-6.

Note:

- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
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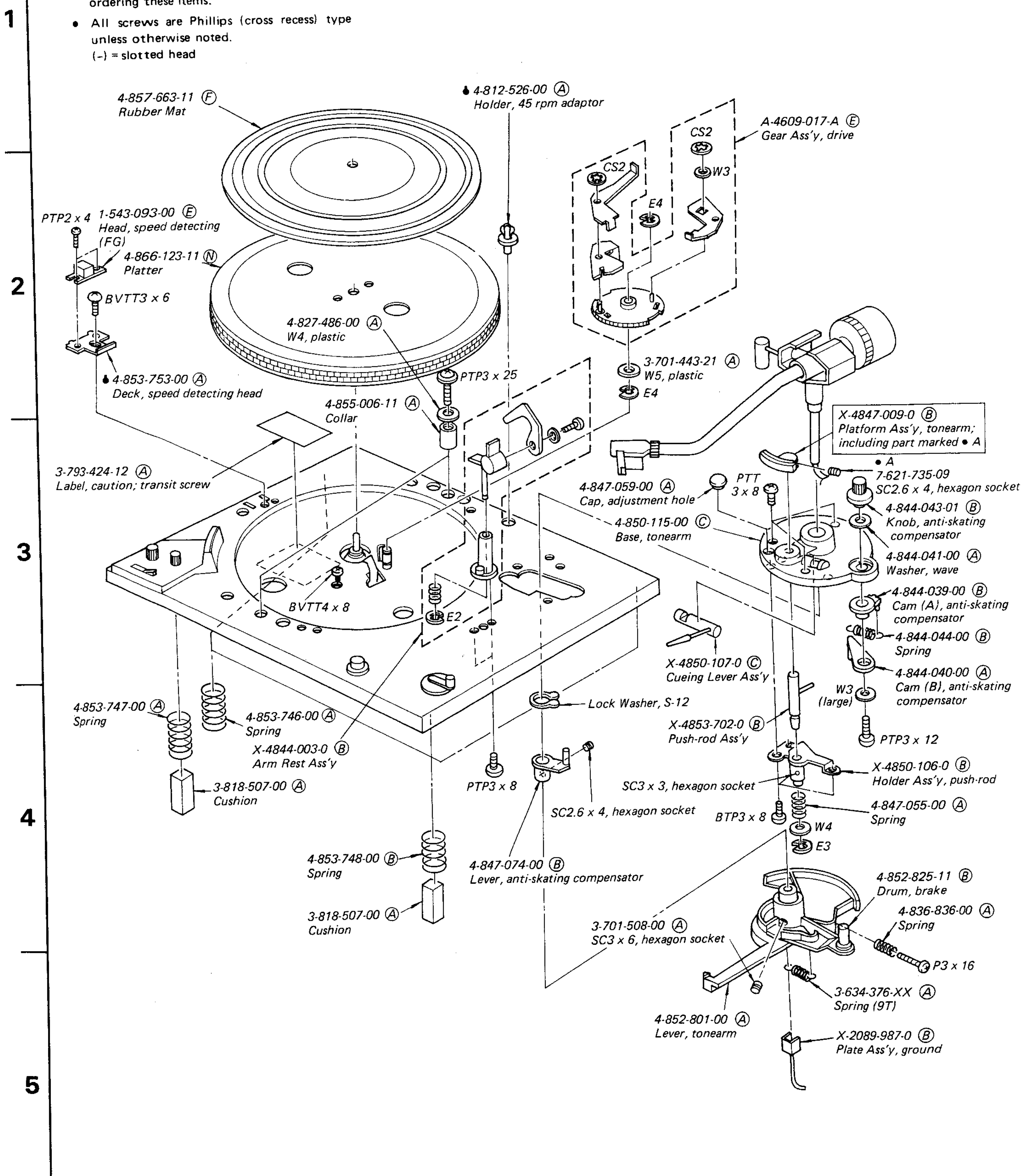
1
2
3
4
5
4-857-663-11 Ⓕ
Rubber Mat
♦ 4-812-526-00 Ⓐ
Holder, 45 rpm adaptor
A-4609-017-A Ⓔ
Gear Ass'y, drive
CS2
CS2
W3
E4
PTP2 x 4
1-543-093-00 Ⓔ
Head, speed detecting (FG)
4-866-123-11 Ⓝ
Platter
BVTT3 x 6
4-827-486-00 Ⓐ
W4, plastic
♦ 4-853-753-00 Ⓐ
Deck, speed detecting head
PTP3 x 25
3-701-443-21 Ⓐ
W5, plastic
E4
4-855-006-11 Ⓐ
Collar
X-4847-009-0 Ⓑ
Platform Ass'y, tonearm; including part marked • A
• A
7-621-735-09
SC2.6 x 4, hexagon socket
3-793-424-12 Ⓐ
Label, caution; transit screw
4-847-059-00 Ⓐ
Cap, adjustment hole
PTT 3 x 8
4-844-043-01 Ⓑ
Knob, anti-skating compensator
4-850-115-00 Ⓒ
Base, tonearm
4-844-041-00 Ⓐ
Washer, wave
BVTT4 x 8
E2
4-844-039-00 Ⓑ
Cam (A), anti-skating compensator
4-844-044-00 Ⓑ
Spring
X-4850-107-0 Ⓒ
Cueing Lever Ass'y
4-844-040-00 Ⓐ
Cam (B), anti-skating compensator
W3 (large)
4-853-747-00 Ⓐ
Spring
4-853-746-00 Ⓐ
Spring
Lock Washer, S-12
X-4853-702-0 Ⓑ
Push-rod Ass'y
PTP3 x 12
X-4844-003-0 Ⓑ
Arm Rest Ass'y
X-4850-106-0 Ⓑ
Holder Ass'y, push-rod
3-818-507-00 Ⓐ
Cushion
PTP3 x 8
SC3 x 3, hexagon socket
SC2.6 x 4, hexagon socket
BTP3 x 8
4-847-055-00 Ⓐ
Spring
W4
E3
4-853-748-00 Ⓑ
Spring
4-847-074-00 Ⓑ
Lever, anti-skating compensator
4-852-825-11 Ⓑ
Drum, brake
4-836-836-00 Ⓐ
Spring
3-818-507-00 Ⓐ
Cushion
3-701-508-00 Ⓐ
SC3 x 6, hexagon socket
P3 x 16
3-634-376-XX Ⓐ
Spring (9T)
4-852-801-00 Ⓐ
Lever, tonearm
X-2089-987-0 Ⓑ
Plate Ass'y, ground

5-7. Note:

- Items marked "♠" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
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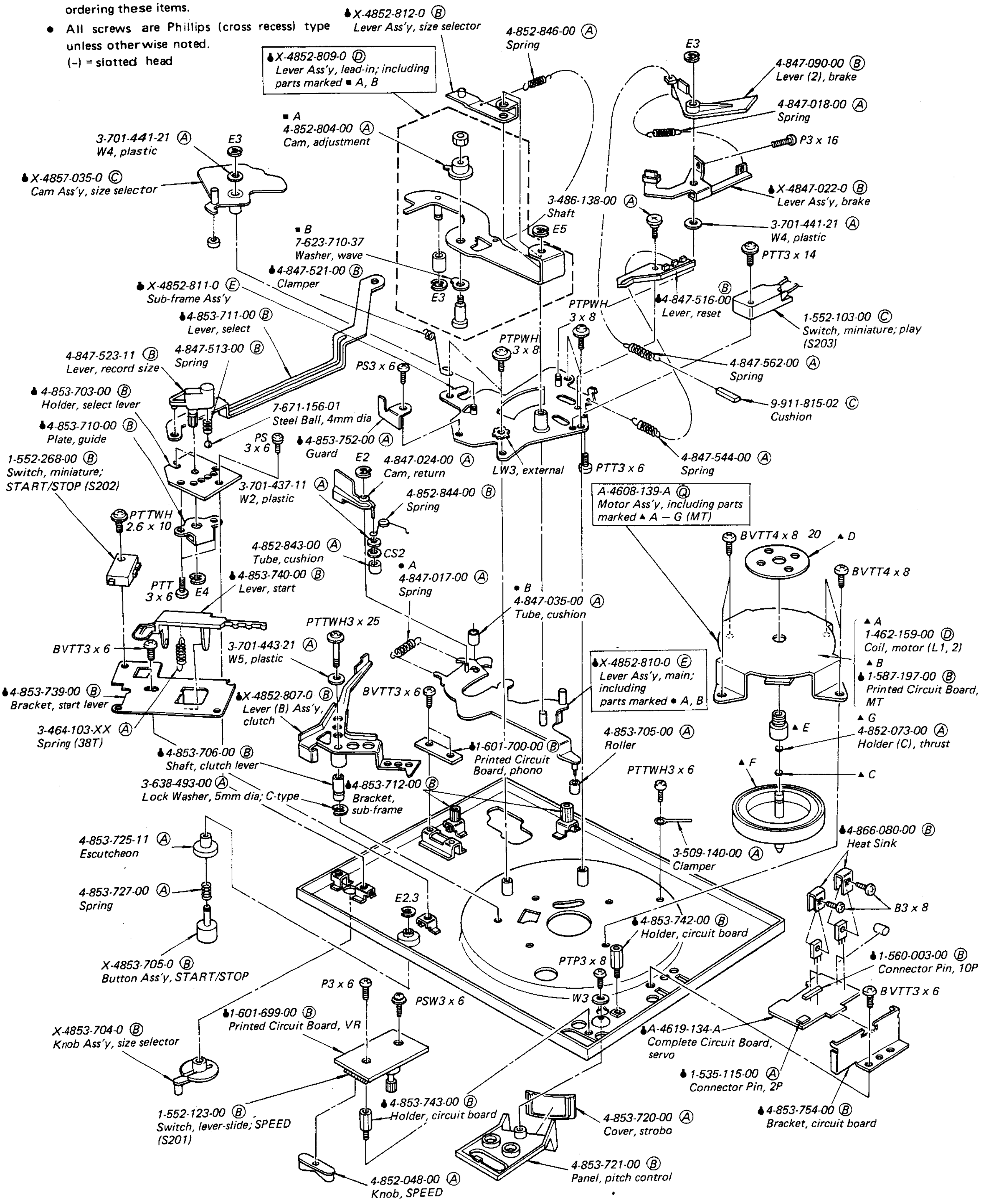
A
B
C
D
1
2
3
4
5
♠X-4852-812-0 Ⓑ
Lever Ass'y, size selector
4-852-846-00 Ⓐ
Spring
♠X-4852-809-0 Ⓓ
Lever Ass'y, lead-in; including parts marked ■ A, B
■ A
4-852-804-00 Ⓐ
Cam, adjustment
3-701-441-21 Ⓐ
W4, plastic
E3
♠X-4857-035-0 Ⓒ
Cam Ass'y, size selector
■ B
7-623-710-37
Washer, wave
♠4-847-521-00 Ⓑ
Clamper
E3
♠X-4852-811-0 Ⓔ
Sub-frame Ass'y
♠4-853-711-00 Ⓑ
Lever, select
4-847-523-11 Ⓑ
Lever, record size
4-847-513-00 Ⓑ
Spring
PS3 x 6
♠4-853-703-00 Ⓑ
Holder, select lever
7-671-156-01
Steel Ball, 4mm dia
♠4-853-710-00 Ⓑ
Plate, guide
PS
3 x 6
♠4-853-752-00 Ⓐ
Guard
1-552-268-00 Ⓑ
Switch, miniature;
START/STOP (S202)
3-701-437-11 Ⓐ
W2, plastic
E2
4-847-024-00 Ⓐ
Cam, return
4-852-844-00 Ⓑ
Spring
PTTWH
2.6 x 10
4-852-843-00 Ⓐ
Tube, cushion
CS2
♠4-853-740-00 Ⓑ
Lever, start
PTT
3 x 6
E4
● A
4-847-017-00 Ⓐ
Spring
PTTWH3 x 25
BVTT3 x 6
3-701-443-21 Ⓐ
W5, plastic
♠4-853-739-00 Ⓑ
Bracket, start lever
♠X-4852-807-0 Ⓑ
Lever (B) Ass'y,
clutch
BVTT3 x 6
3-464-103-XX Ⓐ
Spring (38T)
♠4-853-706-00 Ⓑ
Shaft, clutch lever
3-638-493-00 Ⓐ
Lock Washer, 5mm dia; C-type
♠4-853-712-00 Ⓑ
Bracket,
sub-frame
E3
4-847-090-00 Ⓑ
Lever (2), brake
4-847-018-00 Ⓐ
Spring
P3 x 16
♠X-4847-022-0 Ⓑ
Lever Ass'y, brake
3-486-138-00 Ⓐ
Shaft
E5
3-701-441-21 Ⓐ
W4, plastic
PTT3 x 14
Ⓑ
♠4-847-516-00
Lever, reset
1-552-103-00 Ⓒ
Switch, miniature; play
(S203)
PTPWH
3 x 8
PTPWH
3 x 8
4-847-562-00 Ⓐ
Spring
9-911-815-02 Ⓒ
Cushion
4-847-544-00 Ⓐ
Spring
LW3, external
PTT3 x 6
A-4608-139-A Ⓠ
Motor Ass'y, including parts marked ▲ A – G (MT)
BVTT4 x 8
20
▲ D
BVTT4 x 8
● B
4-847-035-00 Ⓐ
Tube, cushion
▲ A
1-462-159-00 Ⓓ
Coil, motor (L1, 2)
▲ B
♠1-587-197-00 Ⓑ
Printed Circuit Board,
MT
♠X-4852-810-0 Ⓔ
Lever Ass'y, main;
including
parts marked ● A, B
▲ E
▲ G
4-852-073-00 Ⓐ
Holder (C), thrust
4-853-705-00 Ⓐ
Roller
♠1-601-700-00 Ⓑ
Printed Circuit
Board, phono
▲ F
▲ C
PTTWH3 x 6
3-509-140-00 Ⓐ
Clamper
♠4-866-080-00 Ⓑ
Heat Sink
B3 x 8
4-853-725-11 Ⓐ
Escutcheon
4-853-727-00 Ⓐ
Spring
E2.3
♠4-853-742-00 Ⓑ
Holder, circuit board
X-4853-705-0 Ⓑ
Button Ass'y, START/STOP
PTP3 x 8
♠1-560-003-00 Ⓑ
Connector Pin, 10P
P3 x 6
PSW3 x 6
W3
BVTT3 x 6
X-4853-704-0 Ⓑ
Knob Ass'y, size selector
♠1-601-699-00 Ⓑ
Printed Circuit Board, VR
♠A-4619-134-A
Complete Circuit Board,
servo
♠1-535-115-00 Ⓐ
Connector Pin, 2P
1-552-123-00 Ⓑ
Switch, lever-slide; SPEED
(S201)
♠4-853-743-00 Ⓑ
Holder, circuit board
4-853-720-00 Ⓐ
Cover, strobo
♠4-853-754-00 Ⓑ
Bracket, circuit board
4-853-721-00 Ⓑ
Panel, pitch control
4-852-048-00 Ⓐ
Knob, SPEED

5-8.

Note:

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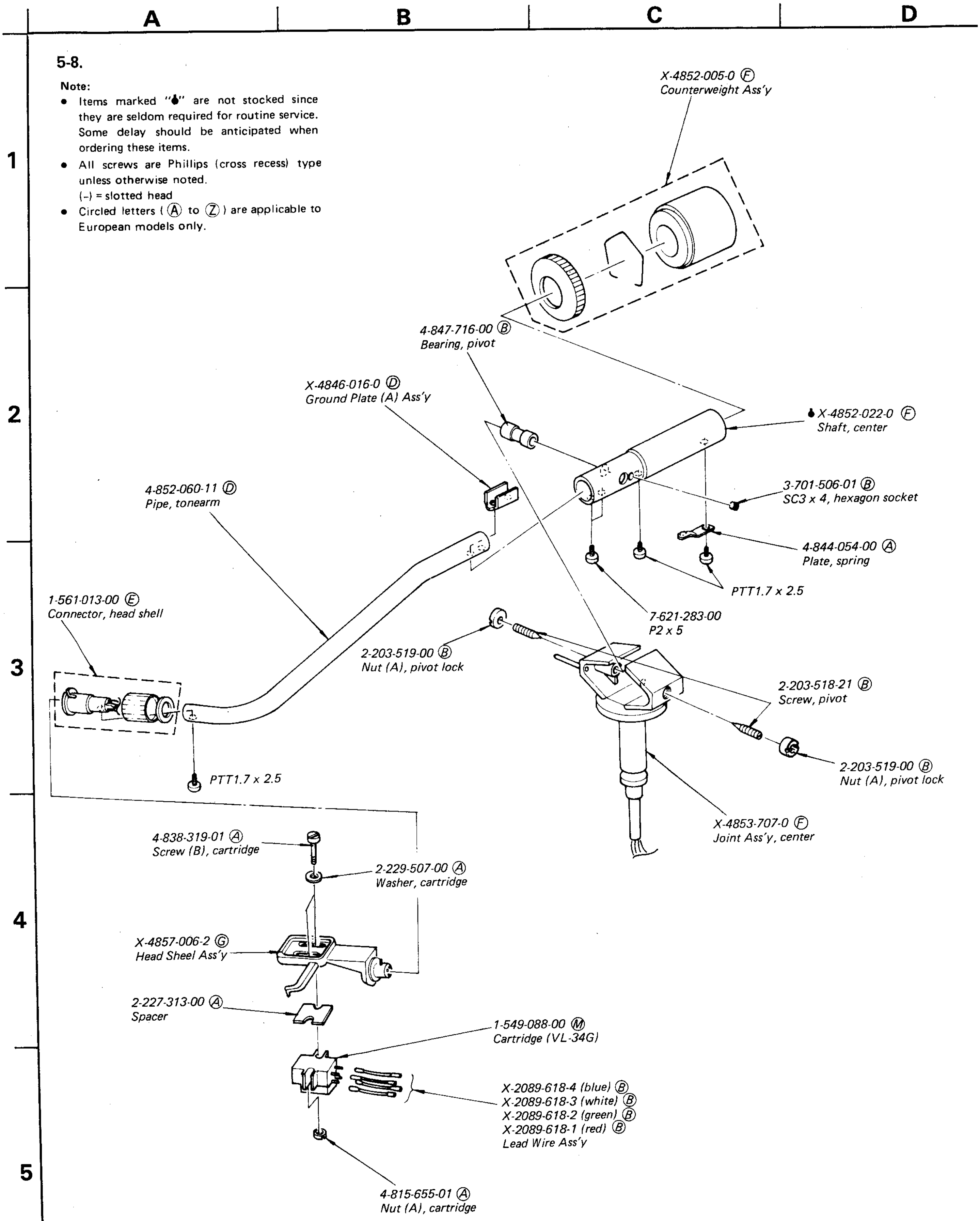
A
B
C
D
1
2
3
4
5
X-4852-005-0 Ⓕ
Counterweight Ass'y
4-847-716-00 Ⓑ
Bearing, pivot
X-4846-016-0 Ⓓ
Ground Plate (A) Ass'y
♦ X-4852-022-0 Ⓕ
Shaft, center
4-852-060-11 Ⓓ
Pipe, tonearm
3-701-506-01 Ⓑ
SC3 x 4, hexagon socket
4-844-054-00 Ⓐ
Plate, spring
PTT1.7 x 2.5
7-621-283-00
P2 x 5
1-561-013-00 Ⓔ
Connector, head shell
2-203-519-00 Ⓑ
Nut (A), pivot lock
2-203-518-21 Ⓑ
Screw, pivot
2-203-519-00 Ⓑ
Nut (A), pivot lock
PTT1.7 x 2.5
X-4853-707-0 Ⓕ
Joint Ass'y, center
4-838-319-01 Ⓐ
Screw (B), cartridge
2-229-507-00 Ⓐ
Washer, cartridge
X-4857-006-2 Ⓖ
Head Sheel Ass'y
2-227-313-00 Ⓐ
Spacer
1-549-088-00 Ⓜ
Cartridge (VL-34G)
X-2089-618-4 (blue) Ⓑ
X-2089-618-3 (white) Ⓑ
X-2089-618-2 (green) Ⓑ
X-2089-618-1 (red) Ⓑ
Lead Wire Ass'y
4-815-655-01 Ⓐ
Nut (A), cartridge

5-9.

Note:

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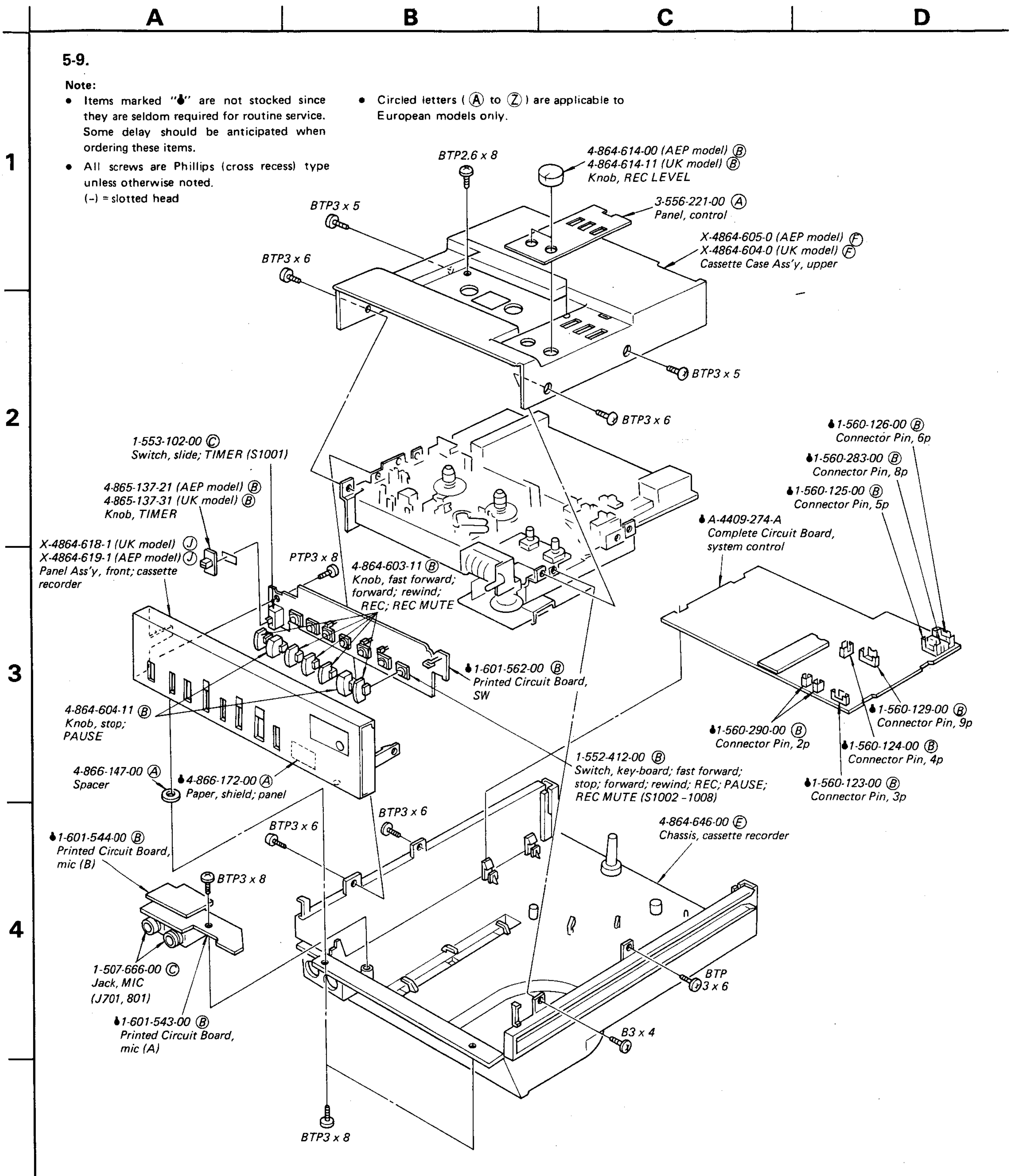
A
B
C
D
1
2
3
4
5
BTP2.6 x 8
4-864-614-00 (AEP model) Ⓑ
4-864-614-11 (UK model) Ⓑ
Knob, REC LEVEL
BTP3 x 5
3-556-221-00 Ⓐ
Panel, control
X-4864-605-0 (AEP model) Ⓕ
X-4864-604-0 (UK model) Ⓕ
Cassette Case Ass'y, upper
BTP3 x 6
BTP3 x 5
BTP3 x 6
♣1-560-126-00 Ⓑ
Connector Pin, 6p
♣1-560-283-00 Ⓑ
Connector Pin, 8p
♣1-560-125-00 Ⓑ
Connector Pin, 5p
♣A-4409-274-A
Complete Circuit Board, system control
1-553-102-00 Ⓒ
Switch, slide; TIMER (S1001)
4-865-137-21 (AEP model) Ⓑ
4-865-137-31 (UK model) Ⓑ
Knob, TIMER
X-4864-618-1 (UK model) Ⓙ
X-4864-619-1 (AEP model) Ⓙ
Panel Ass'y, front; cassette recorder
PTP3 x 8
4-864-603-11 Ⓑ
Knob, fast forward; forward; rewind; REC; REC MUTE
♣1-601-562-00 Ⓑ
Printed Circuit Board, SW
4-864-604-11 Ⓑ
Knob, stop; PAUSE
♣1-560-129-00 Ⓑ
Connector Pin, 9p
♣1-560-290-00 Ⓑ
Connector Pin, 2p
♣1-560-124-00 Ⓑ
Connector Pin, 4p
1-552-412-00 Ⓑ
Switch, key-board; fast forward; stop; forward; rewind; REC; PAUSE; REC MUTE (S1002 -1008)
♣1-560-123-00 Ⓑ
Connector Pin, 3p
4-866-147-00 Ⓐ
Spacer
♣4-866-172-00 Ⓐ
Paper, shield; panel
BTP3 x 6
BTP3 x 6
4-864-646-00 Ⓔ
Chassis, cassette recorder
♣1-601-544-00 Ⓑ
Printed Circuit Board, mic (B)
BTP3 x 8
1-507-666-00 Ⓒ
Jack, MIC (J701, 801)
♣1-601-543-00 Ⓑ
Printed Circuit Board, mic (A)
BTP 3 x 6
B3 x 4
BTP3 x 8

5-10.

Note:

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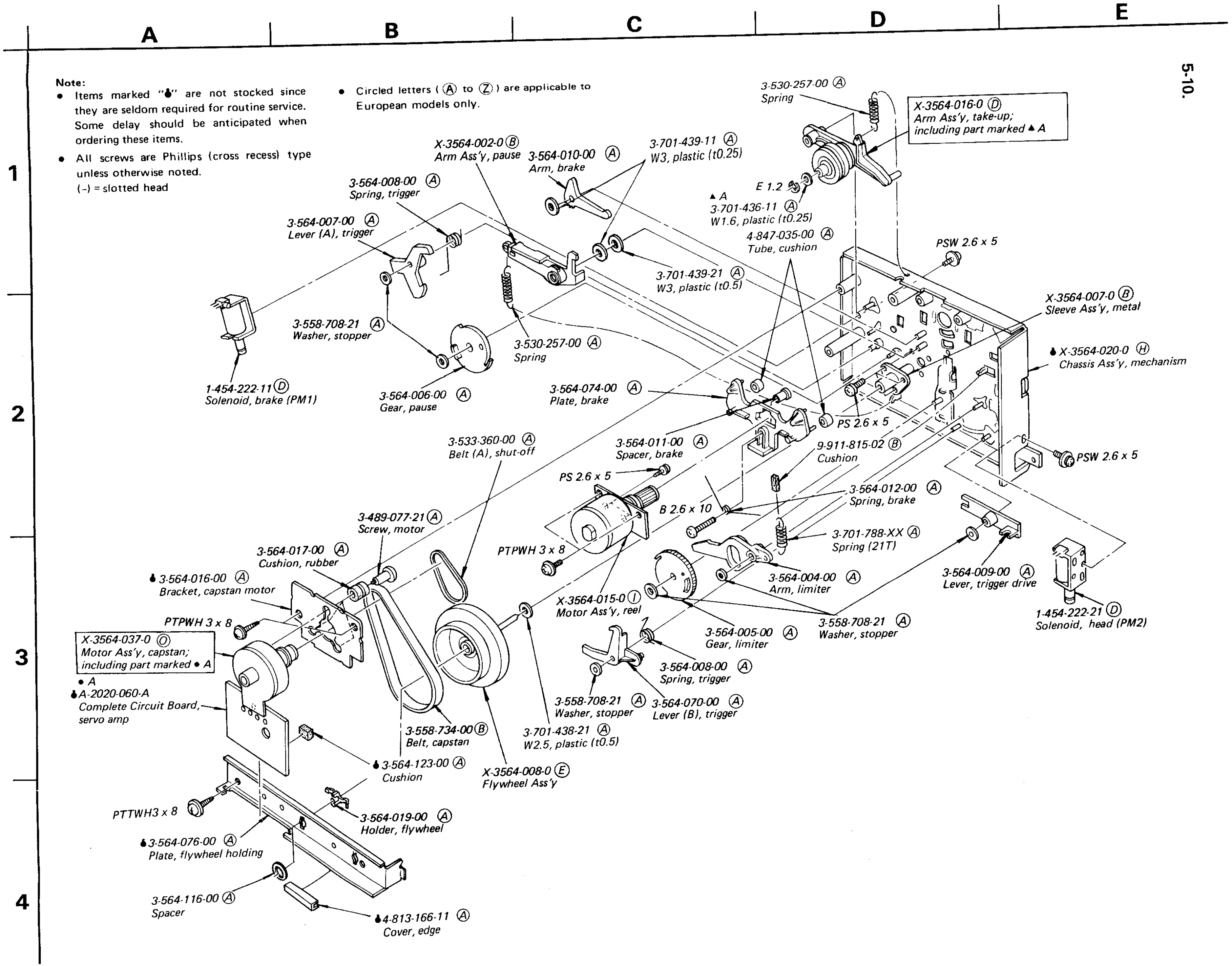
A
B
C
D
E
1
2
3
4
3-530-257-00 Ⓐ Spring
X-3564-016-0 Ⓓ Arm Ass'y, take-up; including part marked ▲ A
X-3564-002-0 Ⓑ Arm Ass'y, pause
3-564-010-00 Ⓐ Arm, brake
3-701-439-11 Ⓐ W3, plastic (t0.25)
3-564-008-00 Ⓐ Spring, trigger
E 1.2
▲ A 3-701-436-11 Ⓐ W1.6, plastic (t0.25)
4-847-035-00 Ⓐ Tube, cushion
3-564-007-00 Ⓐ Lever (A), trigger
3-701-439-21 Ⓐ W3, plastic (t0.5)
PSW 2.6 x 5
X-3564-007-0 Ⓑ Sleeve Ass'y, metal
♦ X-3564-020-0 Ⓗ Chassis Ass'y, mechanism
3-558-708-21 Ⓐ Washer, stopper
3-530-257-00 Ⓐ Spring
1-454-222-11 Ⓓ Solenoid, brake (PM1)
3-564-006-00 Ⓐ Gear, pause
3-564-074-00 Ⓐ Plate, brake
PS 2.6 x 5
3-564-011-00 Ⓐ Spacer, brake
9-911-815-02 Ⓑ Cushion
PSW 2.6 x 5
3-533-360-00 Ⓐ Belt (A), shut-off
PS 2.6 x 5
3-564-012-00 Ⓐ Spring, brake
B 2.6 x 10
3-489-077-21 Ⓐ Screw, motor
3-701-788-XX Ⓐ Spring (21T)
PTPWH 3 x 8
3-564-017-00 Ⓐ Cushion, rubber
3-564-004-00 Ⓐ Arm, limiter
3-564-009-00 Ⓐ Lever, trigger drive
♦ 3-564-016-00 Ⓐ Bracket, capstan motor
X-3564-015-0 Ⓘ Motor Ass'y, reel
1-454-222-21 Ⓓ Solenoid, head (PM2)
PTPWH 3 x 8
3-558-708-21 Ⓐ Washer, stopper
3-564-005-00 Ⓐ Gear, limiter
X-3564-037-0 Ⓞ Motor Ass'y, capstan; including part marked ● A
● A ♦ A-2020-060-A Complete Circuit Board, servo amp
3-564-008-00 Ⓐ Spring, trigger
3-558-708-21 Ⓐ Washer, stopper
3-564-070-00 Ⓐ Lever (B), trigger
3-558-734-00 Ⓑ Belt, capstan
3-701-438-21 Ⓐ W2.5, plastic (t0.5)
♦ 3-564-123-00 Ⓐ Cushion
X-3564-008-0 Ⓔ Flywheel Ass'y
PTTWH3 x 8
3-564-019-00 Ⓐ Holder, flywheel
♦ 3-564-076-00 Ⓐ Plate, flywheel holding
3-564-116-00 Ⓐ Spacer
♦ 4-813-166-11 Ⓐ Cover, edge

5-11.

Note:
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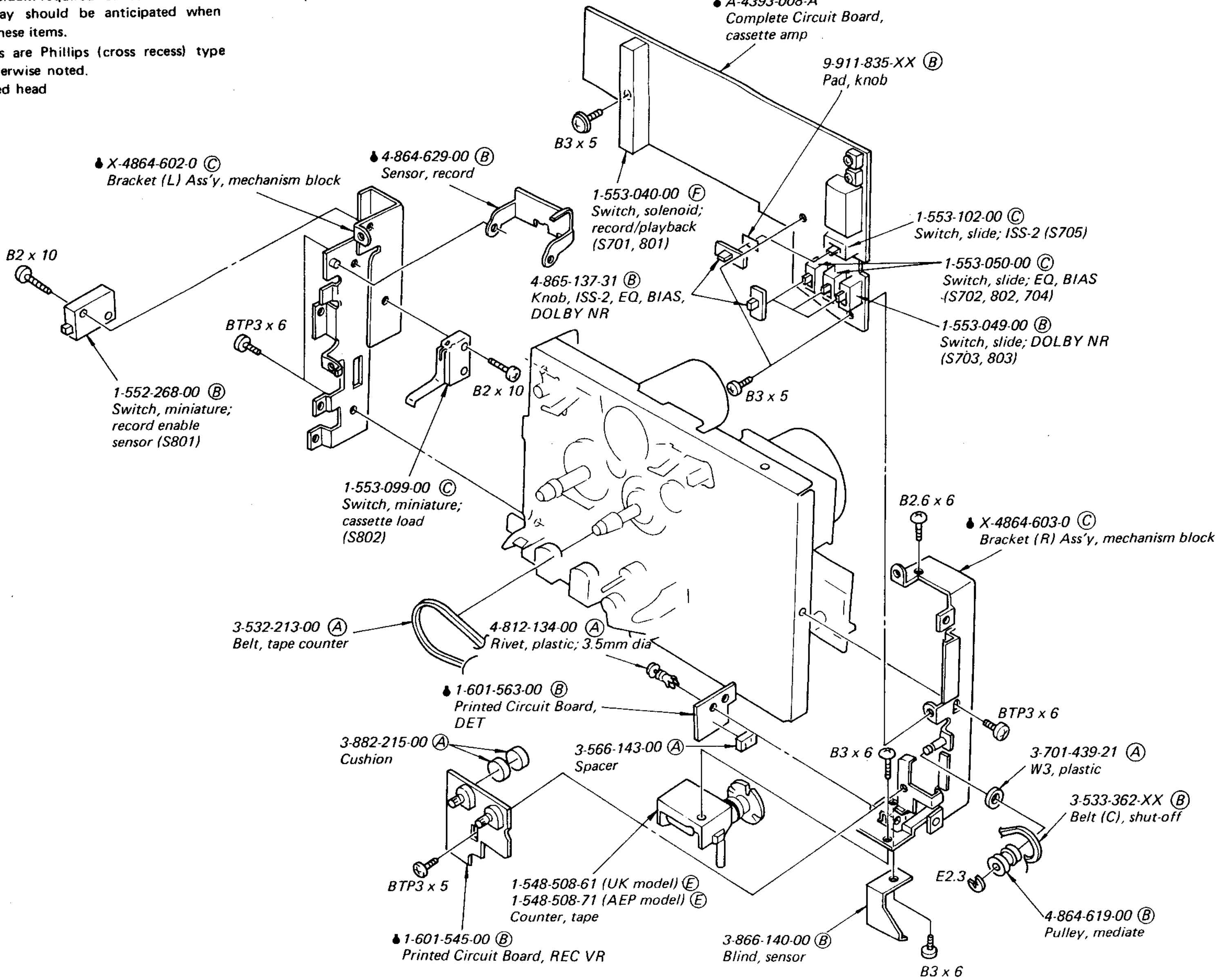
A
B
C
D
E
1
2
3
4
♦ A-4393-008-A
Complete Circuit Board, cassette amp
9-911-835-XX Ⓑ
Pad, knob
B3 x 5
1-553-040-00 Ⓕ
Switch, solenoid; record/playback (S701, 801)
1-553-102-00 Ⓒ
Switch, slide; ISS-2 (S705)
1-553-050-00 Ⓒ
Switch, slide; EQ, BIAS (S702, 802, 704)
1-553-049-00 Ⓑ
Switch, slide; DOLBY NR (S703, 803)
4-865-137-31 Ⓑ
Knob, ISS-2, EQ, BIAS, DOLBY NR
B3 x 5
♦ X-4864-602-0 Ⓒ
Bracket (L) Ass'y, mechanism block
♦ 4-864-629-00 Ⓑ
Sensor, record
B2 x 10
BTP3 x 6
1-552-268-00 Ⓑ
Switch, miniature; record enable sensor (S801)
B2 x 10
1-553-099-00 Ⓒ
Switch, miniature; cassette load (S802)
B2.6 x 6
♦ X-4864-603-0 Ⓒ
Bracket (R) Ass'y, mechanism block
3-532-213-00 Ⓐ
Belt, tape counter
4-812-134-00 Ⓐ
Rivet, plastic; 3.5mm dia
♦ 1-601-563-00 Ⓑ
Printed Circuit Board, DET
BTP3 x 6
3-882-215-00 Ⓐ
Cushion
3-566-143-00 Ⓐ
Spacer
B3 x 6
3-701-439-21 Ⓐ
W3, plastic
3-533-362-XX Ⓑ
Belt (C), shut-off
BTP3 x 5
1-548-508-61 (UK model) Ⓔ
1-548-508-71 (AEP model) Ⓔ
Counter, tape
E2.3
4-864-619-00 Ⓑ
Pulley, mediate
♦ 1-601-545-00 Ⓑ
Printed Circuit Board, REC VR
3-866-140-00 Ⓑ
Blind, sensor
B3 x 6

5-12.

Note:

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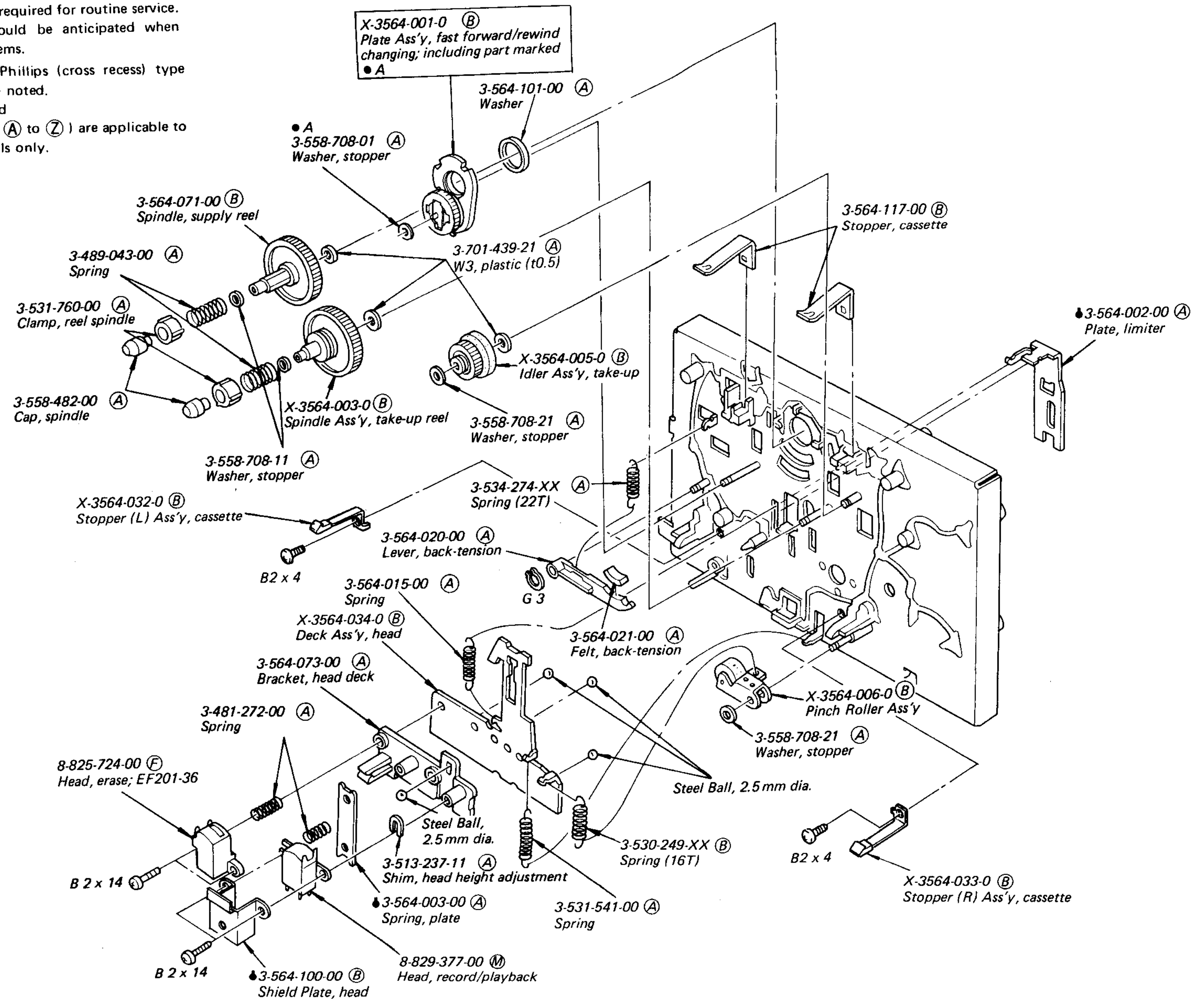

A
B
C
D
E
1
2
3
4
X-3564-001-0 Ⓑ
Plate Ass'y, fast forward/rewind changing; including part marked ● A
3-564-101-00 Ⓐ
Washer
● A
3-558-708-01 Ⓐ
Washer, stopper
3-564-071-00 Ⓑ
Spindle, supply reel
3-489-043-00 Ⓐ
Spring
3-701-439-21 Ⓐ
W3, plastic (t0.5)
3-564-117-00 Ⓑ
Stopper, cassette
3-531-760-00 Ⓐ
Clamp, reel spindle
♠3-564-002-00 Ⓐ
Plate, limiter
X-3564-005-0 Ⓑ
Idler Ass'y, take-up
3-558-482-00 Ⓐ
Cap, spindle
X-3564-003-0 Ⓑ
Spindle Ass'y, take-up reel
3-558-708-21 Ⓐ
Washer, stopper
3-558-708-11 Ⓐ
Washer, stopper
3-534-274-XX Ⓐ
Spring (22T)
X-3564-032-0 Ⓑ
Stopper (L) Ass'y, cassette
3-564-020-00 Ⓐ
Lever, back-tension
B2 x 4
3-564-015-00 Ⓐ
Spring
G 3
X-3564-034-0 Ⓑ
Deck Ass'y, head
3-564-021-00 Ⓐ
Felt, back-tension
3-564-073-00 Ⓐ
Bracket, head deck
X-3564-006-0 Ⓑ
Pinch Roller Ass'y
3-481-272-00 Ⓐ
Spring
3-558-708-21 Ⓐ
Washer, stopper
8-825-724-00 Ⓕ
Head, erase; EF201-36
Steel Ball, 2.5 mm dia.
Steel Ball, 2.5 mm dia.
3-530-249-XX Ⓑ
Spring (16T)
B 2 x 14
3-513-237-11 Ⓐ
Shim, head height adjustment
B2 x 4
♠3-564-003-00 Ⓐ
Spring, plate
3-531-541-00 Ⓐ
Spring
X-3564-033-0 Ⓑ
Stopper (R) Ass'y, cassette
8-829-377-00 Ⓜ
Head, record/playback
B 2 x 14
♠3-564-100-00 Ⓑ
Shield Plate, head

SECTION 6
ELECTRICAL PARTS LIST

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

RECEIVER SECTION

SEMICONDUCTORS

Transistors

Ref. No.	*Part No.*	*Description*
Q101–103	8-729-663-47	Ⓒ 2SC1364
⇒ Q104	8-729-612-77	Ⓑ 2SA1027R
Q105	8-729-665-47	Ⓒ 2SC1362
Q251	8-760-413-10	Ⓑ 2SC1475
Q252–255	8-729-663-47	Ⓒ 2SC1364
Q501, 601	8-729-663-47	Ⓒ 2SC1364
Q900, 901	8-729-316-12	Ⓓ 2SC1061
⇒ Q902	8-729-317-12	Ⓔ 2SA671
⇒ Q903	8-760-413-10	Ⓑ 2SC1475
Q950, 951	8-729-663-47	Ⓒ 2SC1364

ICs

Ref. No.	*Part No.*	*Description*
IC101	8-751-680-01	Ⓘ CX168
⇒ IC102	8-759-904-89	Ⓓ TL489CP
IC201	8-759-111-61	Ⓕ μPC1161C
IC301	8-759-932-80	Ⓒ BA328
IC501, 601	8-759-313-40	Ⓜ SI1340H
IC951	8-759-994-32	Ⓕ TMS1943N2L

Diodes

Ref. No.	*Part No.*	*Description*
D101, 102	8-719-100-81	Ⓓ 1SV118
D103, 104	8-719-815-55	Ⓑ 1S1555
D105–109	8-719-909-24	Ⓑ GL9NG521
D110, 111	8-719-815-55	Ⓑ 1S1555
D112–118	8-719-909-23	Ⓑ GL9HY21
D119	8-719-815-55	Ⓑ 1S1555
D201	8-719-909-21	Ⓑ GL9PR21
⇒ D251	8-719-931-33	Ⓑ EQB01-33
⇒ D252	8-719-931-06	Ⓑ EQB01-06
D255, 256	8-719-815-55	Ⓑ 1S1555
D301	8-719-200-02	Ⓑ 10E2
⇒ D501, 601	8-719-931-21	Ⓑ EQB01-21
D901	8-719-200-02	Ⓑ 10E2
⇒ D902	8-719-931-21	Ⓑ EQB01-21
D904–907	8-719-200-02	Ⓑ 10E2
⇒ D908, 909	8-719-930-11	Ⓑ EQB01-11Z
D910–912	8-719-200-02	Ⓑ 10E2
⇒ D913–916	8-719-911-55	Ⓑ U05G
D917, 918	8-719-200-02	Ⓑ 10E2
D950, 951 D953	8-719-815-55	Ⓑ 1S1555
D955, 956	8-719-909-24	Ⓑ GL9NG521
⇒ D960	8-719-931-06	Ⓑ EQB01-06
CDS951	1-800-779-00	Ⓑ Photoconductive Cell

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

CAPACITORS

All capacitors are in μF. Common capacitors are omitted. Refer to the lists on pages 72 and 73 for their part numbers.

Ref. No.	*Part No.*	*Description*		
C901	⚠1-130-456-00	Ⓒ 0.022	250V	film
C902, 903	⚠1-125-157-00	Ⓓ 6800	42V	elect
C904	⚠1-123-336-00	Ⓑ 470	25V	elect
C906	1-123-363-00	Ⓒ 470	50V	elect
C908, 913	⚠1-123-337-00	Ⓑ 1000	25V	elect
C914	⚠1-123-363-00	Ⓒ 470	50V	elect
C915	⚠1-123-336-00	Ⓑ 470	25V	elect
C918, 919	⚠1-123-324-00	Ⓑ 1000	16V	elect
CP901	1-102-355-00	Ⓑ 0.01 x 2	500V	ceramic
CT101–104	1-141-171-00	Ⓑ Trimmer		

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted. Refer to the list on page 71 for their part numbers.

Ref. No.	*Part No.*	*Description*		
R137	⚠1-217-444-00	Ⓑ 68	½W	fusible
R253	⚠1-212-857-00	Ⓐ 10	¼W	fusible
R314	⚠1-211-626-00	Ⓑ 330	½W	fusible
R517, 617	⚠1-212-958-00	Ⓐ 10	½W	fusible
R625	⚠1-212-999-00	Ⓑ 510	½W	fusible
R905	⚠1-212-977-00	Ⓐ 62	½W	fusible
RV201	1-226-235-00	Ⓐ 5k-B, adjustable; VCO		
RV251–253	1-226-664-00	Ⓑ 2.2k-B, adjustable; FM/MW tune		
RV254–256	1-226-663-00	Ⓑ 1k-B, adjustable; FM/MW tune		
RV501–503 RV601, 602	1-226-717-00	Ⓔ 100k-A/250k-W; variable; BASS, TREBLE, BALANCE		
RV504, 604	1-226-683-00	Ⓔ 250k-B, variable; VOLUME		
RV951	1-226-686-00	Ⓔ 470k-B, adjustable; ABC		

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	*Part No.*	*Description*
		MISCELLANEOUS
CF101	1-527-248-XX	Ⓗ Filter, solid state
CFU101	1-404-226-00	Ⓒ AM IFT
FE101	1-463-287-00	Ⓜ FM Front-end
J501	1-507-649-00	Ⓒ Jack, HEADPHONES
L101	1-401-834-00	Ⓑ Coil, LW antenna (AEP model)
L102, 103	1-401-833-00	Ⓔ Coil, MW/LW ferrite-rod antenna
L104	1-405-890-00	Ⓑ Coil, MW osc
L105	1-405-891-00	Ⓑ Coil, LW osc
L106	1-404-157-00	Ⓒ FM IFT
L107	1-407-741-00	Ⓑ Coil, 18μH; microinductor
L108	1-407-169-XX	Ⓐ Coil, 100μH; microinductor
L109	1-408-171-XX	Ⓑ Coil, 1μH; microinductor
L201, 202	1-407-963-XX	Ⓑ Coil, 15mH; microinductor
L901	1-408-203-00	Ⓑ Coil, 470μH; microinductor
PL	1-518-403-00	Ⓑ Lamp, pilot; cassette
PL1, 3	1-518-323-00	Ⓑ Lamp, pilot; signal indicator, dial scale
PT901	⚠1-446-562-00	Ⓠ Transformer, power (AEP model)
	1-446-563-00	Ⓡ Transformer, power (UK model)
PT902	⚠1-446-560-00	Ⓙ Transformer, power; clock
RL	⚠1-515-357-00	Ⓖ Relay
S012 S021–024	1-553-101-00	Ⓕ Switch, 5-key; MODE, SPEAKER A, B, ISS-1, LOUDNESS
S014, 015	1-552-539-00	Ⓑ Switch, keyboard; FAST, SLOW
S016, 017	1-552-737-00	Ⓑ Switch, keyboard; TIMER, SLEEP
S018, 019	1-552-539-00	Ⓑ Switch, keyboard; CLOCK SET, TIMER/SLEEP SET
S1–8	1-553-088-00	Ⓙ Switch, 7-key; w/muting switch, FUNCTION
S9	1-552-334-00	Ⓑ Switch, 1-key; LW ANTENNA (AEP model)
S11	1-553-044-00	Ⓚ Switch, 10-key; FM/MW PROGRAMMED TUNING
S20	1-553-109-00	Ⓑ Switch, leaf; muting
S25	1-514-346-00	Ⓑ Switch, leaf; AFC
S901	1-553-106-00	Ⓑ Switch, 1-key; POWER
	1-417-014-31	Ⓑ Balun Coil (UK model)
	1-507-532-00	Ⓒ Jack, phono; 4P, AUX, REC OUT
	●1-508-704-00	Ⓑ Connector Pin
	●1-508-822-00	Ⓐ Connector Pin
	●1-508-823-00	Ⓑ Connector Pin

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Part No.	*Description*
1-519-179-00	Ⓚ Fluorescent Display Tube (UK model)
1-519-191-00	Ⓚ Fluorescent Display Tube (AEP model)
1-520-407-00	Ⓜ Meter, REC LEVEL & POWER
1-526-563-00	Ⓒ Jack, antenna; FM 75Ω (UK model)
⚠1-532-503-00	Ⓑ Fuse, T1.602A
1-533-131-00	Ⓐ Holder, fuse
⚠1-534-817-XX	Ⓓ Cord, power (AEP model)
●1-535-116-00	Ⓐ Connector Pin, 3P
●1-535-117-00	Ⓐ Connector Pin, 4P
●1-535-118-00	Ⓐ Connector Pin, 5P
●1-535-119-00	Ⓐ Connector Pin, 6P
●1-535-121-00	Ⓑ Connector Pin, 8P
1-536-560-00	Ⓑ Terminal, ANTENNA
1-536-566-00	Ⓑ Terminal, SPEAKER A, B
⚠1-551-884-31	Ⓔ Cord, power (UK model)
1-555-070-00	Ⓗ Connector Ass'y
●1-560-126-00	Ⓑ Connector Pin, 6P
●1-560-281-00	Ⓑ Connector Pin, 5P
●1-560-286-00	Ⓑ Connector Pin, 2P
●1-561-439-00	Ⓑ Connector Pin, 3P
●1-561-440-00	Ⓑ Connector Pin, 4P
●1-561-442-00	Ⓑ Connector Pin, 6P
●1-561-444-00	Ⓑ Connector Pin, 8P
●1-561-445-00	Ⓑ Connector Pin, 9P
	COMPLETE CIRCUIT BOARD
●A-4351-173-A	Tuner (UK model)
●A-4351-174-A	Tuner (AEP model)
●A-4375-126-A	Tone Control (UK model)
●A-4375-127-A	Tone Control (AEP model)
●A-4388-202-A	Power Amp
	PRINTED CIRCUIT BOARD
●1-601-546-00	Ⓑ Meter
●1-601-550-00	Ⓑ Headphone
●1-601-551-00	Ⓒ Timer (A)
●1-601-552-00	Ⓑ Timer (B)
●1-601-553-00	Ⓑ Preset
●1-601-554-00	Ⓑ CDS
●1-601-555-00	Ⓒ Volume
●1-601-556-00	Ⓑ Signal Indicator
●1-601-557-00	Ⓑ Power Sw
●1-601-558-00	Ⓑ PL (A)
●1-601-559-00	Ⓑ PL (B)

- Items marked "●" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

RECORD PLAYER SECTION

SEMICONDUCTORS

Transistors

Ref. No.	*Part No.*	*Description*
⇒ Q101–104	8-729-902-11	Ⓑ 2SC2021
Q105	8-729-978-62	Ⓑ 2SA786
⇒ Q106	8-760-413-10	Ⓑ 2SC1475
⇒ Q107	8-729-364-81	Ⓒ 2SB648
⇒ Q108	8-760-413-10	Ⓑ 2SC1475
⇒ Q109	8-729-364-81	Ⓒ 2SB648
Q110	8-729-978-62	Ⓑ 2SA786
⇒ Q111	8-729-902-11	Ⓑ 2SC2021
Q112	8-729-978-62	Ⓑ 2SA786
⇒ Q113	8-729-902-11	Ⓑ 2SC2021

ICs

IC101, 102	8-759-145-58	Ⓓ μPC4558C

Hall Devices

H201, 202	8-719-814-09	Ⓓ F1409

CAPACITORS

All capacitors are in μF. Common capacitors are omitted. Refer to the lists on pages 72 and 73 for their part numbers.

C103	1-130-367-00	Ⓑ 0.068 100V film

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted. Refer to the list on page 71 for their part numbers.

RV101, 102	1-226-234-00	Ⓑ 2k-B, adjustable; gain
RV103, 104	1-226-237-00	Ⓑ 20k-B, adjustable; offset
RV201	1-226-238-00	Ⓑ 50k-B, adjustable; speed
RV202, 203	1-226-062-00	Ⓒ 20k-B, variable; PITCH

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	*Part No.*	*Description*
		MISCELLANEOUS
FG	1-543-093-00	Ⓔ Head, speed detecting
L1, 2	1-462-159-00	Ⓓ Coil, motor
MT	A-4608-139-A	Ⓠ Motor Ass'y
	including·	
	1-462-159-00	Ⓓ Coil, motor
	●1-587-197-00	Ⓑ Printed Circuit Board, MT
NL201	1-519-135-11	Ⓑ Lamp, neon
S201	1-552-123-00	Ⓑ Switch, lever-slide; SPEED
S202	1-552-268-00	Ⓑ Switch, miniature; START/STOP
S203	1-552-103-00	Ⓒ Switch, miniature; play
	●1-535-115-00	Ⓐ Connector Pin, 2P
	1-549-088-00	Ⓜ Cartridge, VL-34G
	●1-560-003-00	Ⓑ Connector Pin, 10P
	1-561-013-00	Ⓔ Connector, head shell
	X-2089-618-1	Ⓑ Lead Wire Ass'y (red)
	X-2089-618-2	Ⓑ Lead Wire Ass'y (green)
	X-2089-618-3	Ⓑ Lead Wire Ass'y (white)
	X-2089-618-4	Ⓑ Lead Wire Ass'y (blue)
		COMPLETE CIRCUIT BOARD
	●A-4619-134-A	Servo
		PRINTED CIRCUIT BOARD
	●1-587-197-00	Ⓑ MT
	●1-601-699-00	Ⓑ VR
	●1-601-700-00	Ⓑ Phono sig

CASSETTE RECORDER SECTION

SEMICONDUCTORS

Transistors

Q701, 801	8-729-665-47	Ⓑ 2SC1362
Q702–706 Q802–806	8-729-663-47	Ⓑ 2SC1364
Q1001	8-729-141-43	Ⓑ 2SD414
Q1002,1003	8-729-663-47	Ⓑ 2SC1364
Q1004	8-729-195-23	Ⓑ 2SA952
Q1005	8-729-141-43	Ⓑ 2SD414
Q1006	8-729-154-83	Ⓑ 2SB548
Q1007	8-729-663-47	Ⓑ 2SC1364

- Items marked "●" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Note: Circled letters (Ⓐ to Ⓩ) are applicable
to European models only.

Ref. No.	*Part No.*	*Description*
Q1008	8-729-154-83	Ⓑ 2SB548
Q1009,1010	8-760-413-10	Ⓑ 2SC1475
Q1011,1012	8-729-663-47	Ⓑ 2SC1364
Q1013,1014	8-760-413-10	Ⓑ 2SC1475
Q1015	8-729-663-47	Ⓑ 2SC1364
Q1018–Q1022	8-729-663-47	Ⓑ 2SC1364
⇒ Q1023	8-729-612-77	Ⓑ 2SA1027R
⇒ Q1024	8-729-101-13	Ⓒ PH103
Q1027	8-729-663-47	Ⓑ 2SC1364

ICs

Ref. No.	*Part No.*	*Description*
IC701, 801	8-759-101-74	Ⓚ CX174
IC702	8-759-145-58	Ⓓ μPC4558C
IC1001	8-759-240-49	Ⓔ TC4049BP
IC1002	8-759-147-42	Ⓛ μPD547C042
IC1003	8-759-904-69	Ⓒ MSM4069

Diodes

Ref. No.	*Part No.*	*Description*
D112–118	8-719-909-23	Ⓑ GL9HY21
D701, 801 D702, 802	8-719-815-55	Ⓑ 1S1555
⇒ D703, 803 ⇒ D704, 804	8-719-422-21	Ⓑ 1T22AM
D705, 805	8-719-815-55	Ⓑ 1S1555
D707, 807 D708, 808	8-719-815-55	Ⓑ 1S1555
D1001	8-719-200-02	Ⓑ 10E2
D1002–D1005	8-719-815-55	Ⓑ 1S1555
D1007–D1009	8-719-815-55	Ⓑ 1S1555
D1012–D1016	8-719-200-02	Ⓑ 10E2
D1017–D1021	8-719-815-55	Ⓑ 1S1555
D1023,1024	8-719-909-23	Ⓑ GL9HY21
D1025	8-719-909-21	Ⓑ GL9PR21
D1026	8-719-909-23	Ⓑ GL9HY21
D1027	8-719-815-55	Ⓑ 1S1555
⇒ D1030,1031	8-719-930-11	Ⓑ EQB01-11Z

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	*Part No.*	*Description*

Servo Board (included in capstan motor)

Transistors

Ref. No.	*Part No.*	*Description*
Q1001,1002	8-729-663-47	Ⓑ 2SC1364
Q1003	8-729-180-93	Ⓑ 2SD809
Q1004	8-729-173-13	Ⓑ 2SB731
Q1005	8-729-180-93	Ⓑ 2SD809
Q1006	8-729-173-13	Ⓑ 2SB731

ICs

Ref. No.	*Part No.*	*Description*
IC1001	8-750-690-00	Ⓕ CX069
IC1002	8-759-145-58	Ⓓ μPC4558C

Diodes

Ref. No.	*Part No.*	*Description*
⇒ D1001	8-719-910-65	Ⓑ HZ6B2L
⇒ D1002,1003	8-719-841-01	Ⓓ F1410

CAPACITORS

All capacitors are in μF. Common capacitors are omitted. Refer to the lists on pages 70 and 71 for their part numbers.

Ref. No.	*Part No.*	*Description*		
C1005	1-130-134-00	Ⓑ 0.082	100V	plastic
CT701, 801	1-141-215-00	Ⓑ Trimmer		

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted. Refer to the list on page 72 for their part numbers.

Ref. No.	*Part No.*	*Description*		
R1001	1-214-777-00	Ⓐ 100k	¼W	metal oxide (1%)
R1034, 1035	⚠1-212-857-00	Ⓐ 10	¼W	fusible
RV701, 801	1-226-677-00	Ⓒ 20k-A, variable; REC LEVEL		
RV702, 802	1-226-237-00	Ⓑ 20k-B, adjustable; playback level		
⇒ RV703, 803	1-226-238-00	Ⓐ 50k-B, adjustable; record level		
RV1001	1-226-433-00	Ⓓ 50k-B, adjustable; speed		

MISCELLANEOUS

Ref. No.	*Part No.*	*Description*
HE	8-825-724-00	Ⓕ Head, erase; EF201-36
HRP	8-829-377-00	Ⓜ Head, record/playback
J701, 801	1-507-666-00	Ⓒ Jack, MIC
L702, 802	1-407-878-XX	Ⓑ Coil, 27mH; microinductor
L1001	1-405-800-00	Ⓑ Osc

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: Circled letters (Ⓐ to Ⓩ) are applicable
to European models only.

Ref. No.	*Part No.*	*Description*
L1002	1-408-209-00	Ⓑ Coil, 1mH, microinductor
PM1	1-454-222-11	Ⓓ Solenoid, brake
PM2	1-454-222-21	Ⓓ Solenoid, head
S701, 801	1-553-040-00	Ⓕ Switch, solenoid; record/playback
S702, 802	1-553-050-00	Ⓒ Switch, slide; EQ
S703, 803	1-553-049-00	Ⓑ Switch, slide; DOLBY NR
S704	1-553-050-00	Ⓒ Switch, slide; BIAS
S705	1-553-102-00	Ⓒ Switch, slide; ISS-2
S801	1-552-268-00	Ⓑ Switch, miniature; record enable sensor
S802	1-553-099-00	Ⓒ Switch, miniature; cassette load
S1001	1-553-102-00	Ⓒ Switch, slide; TIMER
S1002–S1008	1-552-412-00	Ⓑ Switch, keyboard; rewind, stop, forward, fast forward, REC, PAUSE, REC MUTE
	X-3564-015-0	Ⓘ Motor Ass'y, reel
	X-3564-037-0	Ⓞ Motor Ass'y, capstan
	1-464-099-00	Ⓕ Bias Osc Unit
	♦ 1-560-123-00	Ⓑ Connector Pin, 3P
	♦ 1-560-124-00	Ⓑ Connector Pin, 4P
	♦ 1-560-125-00	Ⓑ Connector Pin, 5P
	♦ 1-560-126-00	Ⓑ Connector Pin, 6P
	♦ 1-560-129-00	Ⓐ Connector Pin, 9P
	♦ 1-560-280-00	Ⓑ Connector Pin, 3P
	♦ 1-560-283-00	Ⓑ Connector Pin, 8P
	♦ 1-560-290-00	Ⓑ Connector Pin, 2P

COMPLETE CIRCUIT BOARD

A-4393-008-A	Cassette Amp
A-4409-274-A	System Control

PRINTED CIRCUIT BOARD

♦ 1-601-543-00	Ⓑ Mic (A)
♦ 1-601-544-00	Ⓑ Mic (B)
♦ 1-601-545-00	Ⓑ REC RV
♦ 1-601-562-00	Ⓑ SW
♦ 1-601-563-00	Ⓑ DET

- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

ACCESSORIES AND PACKING MATERIALS

Part No.	*Description*
1-501-161-00	Ⓒ Antenna, ribbon
3-701-630-00	Ⓐ Bag, plastic
3-701-806-00	Ⓑ Adaptor, 45 rpm
3-783-009-11	Ⓔ Manual, instruction (AEP model)
3-783-009-41	Ⓒ Manual, instruction (UK model)
3-794-123-11	Ⓐ Label, caution
4-834-105-00	Ⓐ Sheet, polyethylene
4-834-720-00	Ⓐ Cover, turntable
4-853-189-00	Ⓑ Screw, transit
4-862-043-00	Ⓐ Cushion, tonearm
4-866-154-00	Ⓚ Carton (UK model)
4-866-155-00	Ⓚ Carton (AEP model)
4-866-156-00	Ⓐ Sheet, protection; cassette panel
4-866-157-00	Ⓐ Sheet, protection; control panel
4-866-158-00	Ⓓ Cushion, upper (front)
4-866-159-00	Ⓓ Cushion, upper (back)
4-866-160-00	Ⓓ Cushion, lower (front)
4-866-161-00	Ⓓ Cushion, lower (back)
4-866-162-00	Ⓒ Holder, turntable
4-866-163-00	Ⓓ Bag, protection
4-866-169-00	Ⓐ Sheet, protection

1/4 WATT CARBON RESISTORS Ⓐ

Note: Circled letter Ⓐ is applicable to European models only.

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw: – P 3 x 10

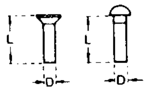
L: *Length in mm*

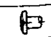
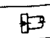
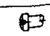
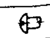
D: *Diameter in mm*

Type of head

Indicated slotted-head only.

Unless otherwise indicated, it means cross-recessed head (Phillips type).



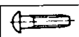
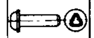
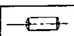
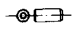
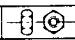
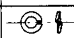
Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Nut, Washer, Retaining ring:

N 3

Diameter of usable screw or shaft

Reference designation

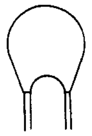
Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	

MYLAR CAPACITORS Ⓐ

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

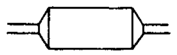
	RATING										
CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.
	PART No.	PART No.	PART No.		PART No.	PART No.	PART No.		PART No.	PART No.	PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	–	–
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	–	–
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	–	–
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	–	–
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				

TANTALUM CAPACITORS



	RATING			→ : Use the high voltage rated one.			
CAP. (μF)	3.15 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	25 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.01					→	→	1-131-396-00 Ⓑ
0.015						→	1-131-397-00 Ⓑ
0.022						→	1-131-398-00 Ⓑ
0.033						→	1-131-399-00 Ⓑ
0.047						→	1-131-400-00 Ⓑ
0.068					→	→	1-131-401-00 Ⓑ
0.1					→	→	1-131-402-00 Ⓑ
0.15					→	→	1-131-403-00 Ⓑ
0.22					→	→	1-131-404-00 Ⓑ
0.33					→	1-131-409-00 Ⓑ	1-131-405-00 Ⓑ
0.47	–	–	–	–	1-131-412-00 Ⓑ	→	1-131-406-00 Ⓑ
0.68	–	–	–	1-131-415-00 Ⓑ	→	1-131-410-00 Ⓑ	1-131-407-00 Ⓑ
1.0	–	–	1-131-418-00 Ⓑ	–	1-131-413-00 Ⓑ	→	1-131-408-00 Ⓑ
1.5	–	1-131-421-00 Ⓑ	–	1-131-416-00 Ⓑ	→	1-131-411-00 Ⓑ	1-131-348-00 Ⓑ
2.2	1-131-424-00 Ⓑ	–	1-131-419-00 Ⓑ	–	1-131-414-00 Ⓑ	1-131-355-00 Ⓑ	1-131-349-00 Ⓑ
3.3	–	1-131-422-00 Ⓑ	–	1-131-417-00 Ⓑ	1-131-362-00 Ⓑ	1-131-356-00 Ⓑ	1-131-350-00 Ⓑ
4.7	1-131-425-00 Ⓑ	–	1-131-420-00 Ⓑ	1-131-369-00 Ⓑ	1-131-363-00 Ⓑ	1-131-357-00 Ⓑ	1-131-351-00 Ⓒ
6.8	–	1-131-423-00 Ⓑ	1-131-376-00 Ⓑ	1-131-370-00 Ⓑ	1-131-364-00 Ⓑ	1-131-358-00 Ⓒ	1-131-352-00 Ⓒ
10	1-131-426-00 Ⓑ	1-131-383-00 Ⓑ	1-131-377-00 Ⓑ	1-131-371-00 Ⓑ	1-131-365-00 Ⓒ	1-131-359-00 Ⓒ	1-131-353-00 Ⓓ
15	1-131-390-00 Ⓑ	1-131-384-00 Ⓑ	1-131-378-00 Ⓑ	1-131-372-00 Ⓑ	1-131-366-00 Ⓒ	1-131-360-00 Ⓓ	–
22	1-131-391-00 Ⓑ	1-131-385-00 Ⓑ	1-131-379-00 Ⓒ	1-131-373-00 Ⓒ	1-131-367-00 Ⓓ		
33	1-131-392-00 Ⓑ	1-131-386-00 Ⓒ	1-131-380-00 Ⓒ	1-131-374-00 Ⓓ			
47	1-131-393-00 Ⓒ	1-131-387-00 Ⓒ	1-131-381-00 Ⓓ	–			
68	1-131-394-00 Ⓑ	1-131-388-00 Ⓒ	–	–			
100	1-131-395-00 Ⓓ	–	–	–			

TANTALUM CAPACITORS



	RATING					
CAP. (μF)	3 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.033						1-131-273-00 Ⓔ
0.047						1-131-274-00 Ⓔ
0.068						1-131-275-00 Ⓔ
0.1						1-131-276-00 Ⓓ
0.15						1-131-277-00 Ⓓ
0.22			–	–	1-131-262-00 Ⓓ	1-131-278-00 Ⓓ
0.33			–	–	1-131-263-00 Ⓓ	1-131-279-00 Ⓓ
0.47			1-131-169-00 Ⓓ	–	1-131-264-00 Ⓓ	1-131-280-00 Ⓓ
0.68			–	1-131-258-00 Ⓓ	1-131-265-00 Ⓓ	1-131-281-00 Ⓓ
1.0			1-131-254-00 Ⓓ	–	1-131-266-00 Ⓓ	1-131-282-00 Ⓓ
1.5		1-131-250-00 Ⓓ	–	–	1-131-267-00 Ⓓ	1-131-283-00 Ⓔ
2.2		–	–	1-131-259-00 Ⓓ	1-131-268-00 Ⓓ	1-131-284-00 Ⓔ
3.3		–	1-131-255-00 Ⓓ	–	1-131-269-00 Ⓓ	–
4.7		1-131-251-00 Ⓔ	1-131-171-00 Ⓓ	–	1-131-270-00 Ⓓ	–
6.8		–	–	1-131-260-00 Ⓓ	1-131-271-00 Ⓔ	–
10	–	–	1-131-256-00 Ⓓ	–	1-131-272-00 Ⓔ	–
15	–	1-131-252-00 Ⓓ	–	1-131-261-00 Ⓔ		
22	–	–	1-131-257-00 Ⓔ	–		
33	1-131-176-00 Ⓓ	1-131-253-00 Ⓔ	1-131-173-00 Ⓒ	–		
47	1-131-288-00 Ⓕ	1-131-174-00 Ⓓ	–	–		
100	1-131-177-00 Ⓓ					

ELECTROLYTIC CAPACITORS

Note: Circled letter (Ⓐ to Ⓩ) are applicable to European models only.

RATING →: Use the high voltage rated one.

CAP. (µF)	6.3 VOLT.	10 VOLT.	16 VOLT.	25 VOLT.	35 VOLT.	50 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.47					→	1-121-726-00 Ⓐ
1.0					→	1-121-391-00 Ⓐ
2.2					→	1-121-450-00 Ⓐ
3.3	→	→	→	1-121-392-00 Ⓐ	→	1-121-393-00 Ⓐ
4.7	→	→	→	1-121-395-00 Ⓐ	→	1-121-396-00 Ⓐ
10	→	→	1-121-651-00 Ⓐ	1-121-398-00 Ⓐ	→	1-121-738-00 Ⓐ
22	→	→	1-121-479-00 Ⓐ	1-121-480-00 Ⓐ	1-121-662-00 Ⓐ	1-121-152-00 Ⓐ
33	→	→	1-121-403-00 Ⓐ	1-121-404-00 Ⓐ	1-121-652-00 Ⓑ	1-121-405-00 Ⓐ
47	→	1-121-352-00 Ⓐ	1-121-409-00 Ⓐ	1-121-410-00 Ⓐ	1-121-653-00 Ⓑ	1-121-411-00 Ⓐ
100	→	1-121-414-00 Ⓐ	1-121-415-00 Ⓐ	1-121-416-00 Ⓐ	1-121-357-00 Ⓑ	1-121-417-00 Ⓑ
220	1-121-419-00 Ⓑ	1-121-420-00 Ⓑ	1-121-421-00 Ⓐ	1-121-422-00 Ⓑ	1-121-261-00 Ⓒ	1-121-423-00 Ⓑ
330	1-121-751-00 Ⓑ	1-121-805-00 Ⓑ	1-121-521-00 Ⓒ	1-121-654-00 Ⓑ	1-121-655-00 Ⓓ	1-121-656-00 Ⓒ
470	1-121-424-00 Ⓑ	1-121-425-00 Ⓒ	1-121-426-00 Ⓒ	1-121-733-00 Ⓑ	1-121-361-00 Ⓔ	1-121-810-00 Ⓓ
1000	–	1-121-736-00 Ⓒ	1-121-245-00 Ⓓ	1-121-657-00 Ⓓ	1-121-388-00 Ⓔ	1-123-061-00 Ⓕ
2200	1-121-658-00 Ⓑ	1-121-659-00 Ⓒ	1-121-660-00 Ⓓ	1-123-067-00 Ⓕ	1-121-984-00 Ⓕ	–
3300	1-121-661-00 Ⓓ	1-123-075-00 Ⓔ	1-123-071-00 Ⓕ	–	–	–

CAP. (µF)	100 VOLT.	160 VOLT.	250 VOLT.	350 VOLT.
	PART No.	PART No.	PART No.	PART No.
0.47	–	–	–	–
1.0	1-123-249-00 Ⓐ	1-123-252-00 Ⓐ	1-123-003-00 Ⓑ	1-121-168-00 Ⓑ
2.2	1-123-250-00 Ⓐ	1-123-026-00 Ⓑ	–	1-123-028-00 Ⓑ
3.3	1-121-995-00 Ⓐ	–	1-123-004-00 Ⓑ	1-123-006-00 Ⓒ
4.7	1-123-255-00 Ⓐ	1-121-246-00 Ⓑ	1-121-759-00 Ⓑ	1-123-007-00 Ⓓ
10	1-121-126-00 Ⓑ	1-121-999-00 Ⓑ	1-123-254-00 Ⓒ	1-123-008-00 Ⓓ
22	1-121-996-00 Ⓒ	1-123-253-00 Ⓒ	1-123-005-00 Ⓓ	1-123-022-00 Ⓓ
33	1-121-997-00 Ⓒ	1-121-757-00 Ⓒ	–	–
47	1-123-251-00 Ⓒ	1-121-919-00 Ⓒ	–	–
100	1-123-084-00 Ⓔ	–	–	–

CERAMIC CAPACITORS Ⓐ

RATING

CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (µF)	50 VOLT.
	PART No.		PART No.		PART No.		PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

0.001µF = 1,000pF

CERAMIC (SEMICONDUCTOR) CAPACITORS Ⓐ

RATING →: Use the high voltage rated one.

CAP. (µF)	25 VOLT.	50 VOLT.	CAP. (µF)	25 VOLT.	50 VOLT.
	PART No.	PART No.		PART No.	PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00	1-161-054-00
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015		1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018		1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022		1-161-043-00	0.039	1-161-010-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

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